University Hospitals Sussex
NHS Foundation Trust

Please note, IF DOCUMENT IS PRINTED, IT MAY BECOME OUT OF DATE

TRUST CLINICAL GUIDELINE

Care in Labour (in all care settings)

Overview

The purpose of this guideline is to provide good practice evidence for staff in the care of pregnant women and birthing people in labour in all care settings.

To ensure that labour is managed correctly as per national guidance to ensure optimal outcome for low risk women and birthing people in normal labour involving the woman or birthing person in the decision making process.

Owner	S. Adamson & F. Usifo
Author/further information	N. Maguire, Obstetric Consultant
Guideline version	v9.1
Related policies	NA
Related protocols/procedures	**UHSussex (SRH & WH) Maternity Guidelines:** Fetal Monitoring, Bladder Care, Labour Risk Assessment , Newborn Feeding, Retained Placenta, Operative Vaginal Delivery, Induction of Labour and Use of Oxytocin, Management of Women and Babies with Risk Factors for Neonatal Sepsis
Standards	RCOG 2016 Postpartum Haemorrhage, Prevention and Management (Green-top Guideline No. 52) NICE 2023 Intrapartum Care
Superseded documents	NA
Review due	August 2027
Reference number	CG1196

Approval		
Joint Obstetrics Guideline Group	Date approved	17th January 2024
Women & Children's Clinical Effectiveness Meeting	Date approved	21st March 2024
Consultation		
Medicines Governance Committee	Date approved	13th March 2024
Ratification		
Clinical Document Approval Group	Date approved	21st August 2024

Contents

1.0 Introduction 5
2.0 Scope....5
3.0 Responsibilities 5
4.0 Definitions and abbreviations used within this guideline....5
5.0 Initial assessment by the midwife on admission or attendance at home....6
5.1 If in the latent phase of labour 7
5.2 If labour is confirmed 7
5.3 Risk assessments 7
5.4 Initial labour risk assessment....8
5.5 Referral 8
5.6 Risk documentation....9
6.0 Documentation 9
7.0 Pre-labour spontaneous rupture of membranes (SROM) >37 weeks 9
7.1 Speculum examination 10
7.2 Expectant management of low risk SROM (>37/40)....10
8.0 Fluid balance management & bladder care....10
9.0 Management and care of women and birthing people in the first stage of labour 11
9.1 Biomechanics....11
9.2 Monitoring of the maternal or birthing person condition during established 1st stage of labour....12
9.3 Monitoring fetal condition....13
9.4 Monitoring progress during the 1st stage of labour 13
9.4.1 Definition of delay in 1st stage....14
9.4.2 Management of 1st stage delay....14
9.4.3 Referral to obstetric team 14
10.0 Nutrition in labour 15
11.0 Pressure area care....15
12.0 Pain Management 15
12.1 Pharmacological analgesia....16
12.2 Care and observations for women and birthing people with regional analgesia in labour 16
13.0 Management of the second stage of labour 17
13.1 Confirmation of second stage 17
13.2 Monitoring maternal condition....17
13.3 Monitoring fetal condition....18
13.4 Commencing pushing....18
13.5 Monitoring the progress of second stage 18
13.6 Defining lack of progress 19
13.7 Management of delay in progress in the second stage 20
14.0 Management of the third stage of labour....20
14.1 Active management....20
14.2 Physiological management....21
14.2.1 Exclusions to physiological management of the third stage of labour 22
14.3 Referral to obstetric team 22
14.4 Placental cord drainage....22

14.5 Monitoring of maternal or birthing parent condition....23
14.6 Placental histology....23
15.0 Care of the mother or birthing parent and baby immediately after birth....23
15.1 Initial assessment of the mother or birthing parent....23
15.2 Initial care of the baby....24
16.0 Monitoring....24
Appendix 1: Management following risk assessment in labour....25
Appendix 2: Maternity Information System (MIS) errors....26
Appendix 3: Peanut Ball Positions....27
Appendix 4: Placental histology....28
Appendix 5: Guideline Version Control Log....29
Appendix 6: Due Regard Assessment Tool....31
Appendix 7: Template Dissemination, Implementation and Access Plan....32
Appendix 8: Additional guidance and information....33

Care in labour (in all care settings) guideline

1.0 Introduction

This guideline is to ensure that all stages of labour are managed correctly as per national guidance to ensure optimal outcome for low risk women and birthing people in normal labour involving the woman or birthing person in the decision making process.

The majority of women and birthing people with an uncomplicated pregnancy are fit and healthy and have the potential to give birth normally with healthy newborns as the expected outcome. Midwives are expert professionals skilled in supporting and maximising normal birth and their skills should be promoted and valued. The role of the midwife is integral to models of care which promote normality.

Care in labour must be aimed at achieving the best possible physical, emotional and psychological outcomes for pregnant women and birthing people and babies with clinical intervention not being offered if labour is progressing normally and both woman or birthing person and baby are well.

2.0 Scope

This guideline applies to:

- Midwives
- Obstetricians

3.0 Responsibilities

Midwives & Obstetricians:

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

Management:

- To ensure the guideline is reviewed as required in line with Trust and National recommendations.
- To ensure the guideline is accessible to all relevant staff.

4.0 Definitions and abbreviations used within this guideline

MIS - Maternity Information System eg Badgernet	**VE -** Vaginal Examination
CTG - Cardiotocography	**VTE -** Venous thromboembolism
HELLP - Hemolysis, Elevated Liver Enzymes and Low Platelets	**GBS -** Group B Streptococcus
BMI - Body Mass Index	**PROM -** Prolonged Rupture of Membranes

SROM - Spontaneous Rupture of Membranes	**EFM -** Electronic Fetal Monitoring
IA - Intermittent Auscultation	**IM -** Intramuscular
PPH - Post Partum Haemorrhage	**MROP -** Manual Removal of Placenta
FHR- Fetal Heart Rate	**LMP-** Last Menstrual Period
IOL- Induction of Labour	**TENS-** Transcutaneous Electrical Nerve Stimulation
PCA- Patient Controlled Analgesia	**ARM-** Artificial Rupture of Membranes
MTOP- Medical Termination of Pregnancy	**SCBU-** Special Care Baby Unit
IUGR- intrauterine Growth Restriction	

First stage: **Latent first stage:** Painful contractions with cervical change including effacement and dilatation up to 4 centimetres (cm).

Established first stage: Regular, painful contractions with progressive cervical dilatation from 4cm to full dilatation.

Second stage: **Passive second stage:** full dilatation (10cm) of the cervix prior to or in the absence of involuntary expulsive contractions / maternal effort.

Active second stage: expulsive contractions and/or active maternal effort with full dilatation, or the baby is visible.

Third Stage: From the birth of the baby to expulsion of placenta and membranes.

5.0 Initial assessment by the midwife on admission or attendance at home

- Review maternal records and listen to the woman or birthing person's story.
- Physical observations-record blood pressure, temperature, pulse rate and urinalysis.
- Abdominal palpation-fundal height, lie, presentation, position and engagement.
- Length, strength and frequency of contractions.
- Vaginal loss- show, liquor, blood.
- Assessment of the woman or birthing person's pain, including her wishes for coping with labour and the options available for pain relief.
- Review and record maternal or birthing parent and fetal risk factors (see 'Risk Assessments' below for further information).
- Assessment of fetal movements in the last 24 hours – if reduced then a CTG should be performed, and the woman or birthing person reviewed by an obstetrician.
- The fetal heart rate (FHR) should be auscultated for a minimum of 1 minute immediately after a contraction and recorded as a single rate. The maternal pulse should be palpated to differentiate between maternal pulse and FHR.

The above assessment should be recorded on MIS and comprise one-to–one midwifery care for at least 1 hour.

5.1 If in the latent phase of labour:

- Encourage the woman or birthing person to go home if in hospital and recommend coping strategies e.g. warm bath, mobilisation, TENS, light diet, hydration, and paracetamol.
- Women and birthing people should be advised to keep in touch and inform of any concerns.
- For women and birthing people who remain in hospital during the latent phase, the fetal heart should be documented every 2 hours if an opiate has been administered, and every 4 hours if no medication has been given. If auscultation was not performed due to the woman or birthing person being asleep, this should be documented on MIS.
- This guideline should be considered in conjunction with the Trust 'CG1106 Care during the Latent Phase of Labour' guideline.

5.2 If labour is confirmed

- Cardiotocography (CTG) monitoring is not required, unless risk factors are identified (see CG1116 Fetal Monitoring Guideline).
- Offer vaginal examination (VE). Women and birthing people should be warned that there is a risk of inadvertently rupturing membranes with vaginal examination.
- Formulate a plan of care with the woman or birthing person.

For pregnant women and birthing people at low risk of complications, amniotomy and oxytocin do not reduce the incidence of caesarean section, increase the incidence of spontaneous vaginal births or contribute to improved neonatal outcomes. They are therefore unnecessary for women and birthing people at low risk of complications if labour is progressing normally. (NICE CG132 Caesarean Section).

5.3 Risk assessments

- An initial risk assessment on MIS should be carried out on all women and birthing people in labour on each hospital admission or on attendance at home.
- If the risk assessment is completed on admission or at home and the woman or birthing person is subsequently discharged or if the midwife leaves the house not in labour a new risk assessment should be completed on the next admission.
- Midwives providing intrapartum care for pregnant women and birthing people, while raising the profile of normal birth must be able to recognise deviations from normal progress at all three stages of labour, recognising events that may be detrimental to maternal and fetal wellbeing during labour. When new risks are identified during any stage of labour, the midwife is responsible for making a timely referral to the on-call obstetric Registrar or Consultant. This should be documented on MIS.

- Pregnant women and birthing people should be made aware of the identified risk factors (at any time in the process) and referral, particularly women and birthing people at home or in the birth centre who should be advised of the need to transfer into the maternity unit for obstetric review.

5.4 Initial labour risk assessment

The initial assessment to identify risk factors or potential complications should be documented on MIS using the risk assessment form (Appendix 1) and should take into account any issues or plans of care identified antenatally. This will include the following:

- Appropriate place of birth and the lead professional - midwife led or consultant led care.
- Clinical picture - gravida, parity, gestation by scan and LMP.
- Current and previous obstetric history e.g. previous: antepartum haemorrhage, preterm labour, complicated labour, shoulder dystocia, 3rd/4th degree tear, postpartum haemorrhage, caesarean Section, manual removal of placenta, pre-eclampsia / HELLP Syndrome, GBS.
- Medical history – diabetes, psychiatric disorders, and pre-existing medical conditions e.g. epilepsy, cardiac anomaly, asthma, haemoglobinopathies.
- Anaesthetic history & raised BMI.
- Risk factors for venous thromboembolism and complete VTE risk assessment.
- Social lifestyle history.
- Pressure area assessment documented on MIS.
- Assessment of routine observations of the woman or birthing person and the fetus including palpation and auscultation.

5.5 Referral

- For pregnant women and birthing people with pre-existing risk factors identified in the antenatal period; or who have newly identified risk factors the labour ward coordinator should be informed and the on-call obstetrician should be contacted and asked to review the patient.
- This referral should be documented on MIS. This will ensure that the on call obstetric Team are aware of all patients with identified risks in labour.
- The on-call obstetrician should review the patient (taking into account any plans made during the antenatal period) and document an individual plan for the management of the risks on MIS.
- If identified with risk factors and the woman or birthing person is non-compliant with the change in status and subsequent plan; this must be relayed to the labour ward coordinator as well as the on-call obstetric consultant.
- For pregnant women and birthing people who present in labour with no antenatal care see CG1125 Management of non-attendance for maternity care guideline. If further support is identified (i.e. in postnatal period) referral to other services should be made. For any safeguarding concerns, please raise a Maternity Antenatal and Postnatal Safeguarding Alert.

5.6 Risk documentation

- Referrals and subsequent individualised management plans should be documented in the health record.
- Any change in lead professional during labour should be documented in the labour record.

6.0 Documentation

Venous Thromboembolism (VTE) and pressure area care assessment.

The partogram should be commenced at the start of the active first stage to provide a contemporaneous record of the progress of labour; as well as fetal and maternal or birthing person wellbeing.

The partogram is intended to provide an accurate record of the progress in labour, so that any delay or deviation from normal may be detected quickly and treated accordingly.

The lead professional should be documented on MIS and updated if it changes at any time.

Post-birth – please check all MIS documentation is correct. Particularly if the entries are not entered by the delivering health professional. Any errors should be escalated immediately if they are discovered see Appendix 2.

7.0 Pre-labour spontaneous rupture of membranes (SROM) >37 weeks

If spontaneous rupture of membranes ≥37 weeks is reported without contractions the pregnant woman or birthing person should be assessed as soon as possible (home assessment or to attend the hospital out of hours). Where pregnant women and birthing people have additional risks consider immediate assessment.

- Fetal movement, heart rate and liquor colour should be assessed at this initial contact.
- Augmentation should be offered at any time after confirmation of PROM taking into account that 60% of women and birthing people with SROM labour within 24 hours.
- They should also be advised that the risk of serious neonatal infection increases from 1 in 200, to 1 in 100 (doubles) after 24 hours of ruptured membranes (i.e. from 0.5% to 1%).
- Induction of labour (IOL) is appropriate up to 24 hours after rupture of the membranes (see 'CG1119 Induction and augmentation of labour and use of oxytocin guideline') or if lower risk the woman and birthing person can choose expectant management with discussion documented on MIS (see section 8.2).
- Where there is meconium-stained liquor the woman or birthing person should be reviewed as soon as possible by an obstetrician for an individualised plan of care.

- With a history of Group B Streptococcus (GBS), pregnant women and birthing people should be asked to come to Labour Ward and be induced as soon as possible using a Syntocinon infusion (see 'CG11100 Management of Women and Neonates with Risk Factors for Neonatal Sepsis including Group B Streptococcus' guideline).

7.1 Speculum examination

- Speculum examination should not be performed on pregnant women and birthing people with a certain history and clear evidence of rupture of the membranes at term.
- Pregnant women and birthing people with an uncertain history of pre-labour rupture of the membranes should be offered a speculum examination to determine whether their membranes have ruptured.

A vaginal examination is not required if the pregnant woman or birthing person is not contracting regularly.

7.2 Expectant management of low risk SROM (≥37/40)

Until the induction is commenced or if expectant management beyond 24 hours is chosen by the pregnant woman or birthing person:

- Lower vaginal swabs and maternal C-reactive protein are not indicated.
- Pregnant women and birthing people should be advised to record their temperature every 4 hours during waking hours and to report immediately any developing pyrexia or change in the colour or smell of their vaginal loss to detect any infection that may be developing.
- Pregnant women and birthing people should be informed that bathing or showering are not associated with an increase in infection, but that having sexual intercourse may be.
- Fetal movement and fetal heart rate should be monitored at initial contact, and every 24 hours following SROM until established labour. Pregnant women and birthing people should be advised to report any decrease or change in fetal movements.
- If labour has not started 24 hours after rupture of the membranes, advise the pregnant woman or birthing person to give birth where there is access to neonatal services. If required, neonatal sepsis observations will be performed according to 'CG11100 Management of Women and Neonates with Risk Factors for Neonatal Sepsis including Group B Streptococcus' guideline, and pregnant women and birthing people should be advised of this during their labour.

8.0 Fluid balance management & bladder care

See 'CG21009 Maternity fluid management as an in-patient & during labour guideline' for frequency of measurement, management of hyponatraemia and management of ketonuria.

All pregnant women and birthing people admitted for IOL or in labour or attended to at a homebirth should have a fluid balance chart commenced, with a cumulative balance recorded if transferred between clinical areas.

If unable to void urine on two occasions, consider inserting a silicone indwelling catheter with maternal consent. For more information, please see the 'CG1137 Bladder Care for Maternity Patients Guideline'.

9.0 Management and care of women and birthing people in the first stage of labour

Pregnant women and birthing people should have one to one care once in established labour.

Women and birthing people should be encouraged to adopt upright positions and to mobilise during labour. Midwives should discourage women and birthing people from lying in the supine position. Should a pregnant woman or birthing person feel the need to rest, they should be encouraged into a left lateral position thus enabling the sacrum to move giving optimum room for the baby to descend through the pelvis.

Pregnant women and birthing people should be encouraged to move and adopt positions that they find comfortable. Midwives should promote a homely environment in the labour room where the bed is not the main focus and feel confident in offering equipment such as mats, birthing balls, hydrotherapy and non-invasive pain relief techniques such as massage, and breathing techniques to promote active labour.

9.1 Biomechanics

Midwives can consider use of peanut ball, particularly for women and birthing people with epidurals, as these have been shown to be a safe and low-cost intervention that shortens the length of labour and may reduce the chance of unplanned caesarean birth. See Appendix 3 for different positions that may be used.

Freedom of movement during labour is beneficial to support the physiology of labour and irth. Women and birthing people who choose to be mobile during their labour and birth should be supported to do so.

Biomechanics is the study of biology and the mechanisms of movement. Biomechanics and maternal positional changes in any stage of pregnancy and labour encourages optimal fetal positioning and its associated benefits. Biomechanic techniques may be used by a trained midwife or health professional, both preventatively and responsively. On suspicion of a malposition, early support and advice regarding biomechanics may be of benefit. The use of biomechanic techniques should not delay or replace escalations of concerns. The aim of biomechanics in labour is to provide additional choice and holistic care to women and birthing people.

Although we do not have robust evidence to support the use of biomechanics to resolve malposition, it is thought that by adopting biomechanical positions, the pelvic and uterine ligaments are stretched, and this may create space and encourage the baby to rotate into a more favourable position for labour. A biomechanical approach is being adopted by many NHS trusts across the UK, and quality improvement projects implementing some of these techniques outside of the UK have been associated with a reduction in caesarean section rate (Barrera, 2022; Sears, 2023; Zwillinger, 2023), and positive birth experience (Iversen, 2017).

9.2 Monitoring of the maternal or birthing person condition during established 1st stage of labour

The following observations should be documented on the partogram, and if any deviations, documented in the labour record with plan of care on MIS:

- Pulse every hour.
- Blood pressure 4 hourly unless indicted more frequently.
- Temperature and respiration rate 4 hourly unless signs of infection.
- Encourage to pass urine at least 4 hourly and volume passed documented on fluid balance chart and on partogram.
- Uterine contractions showing strength (mild, moderate, strong) and frequency every 30 minutes.
- Abdominal palpation should be performed prior to vaginal examinations every four hours and more frequently if clinically indicated**.**
- Tap water may be used if cleansing is required before vaginal examination.
- Routine hygiene measures taken by staff caring for women and birthing people in labour, including standard hand hygiene and single-use non-sterile gloves are appropriate to reduce cross-contamination between women and birthing people, babies and healthcare professionals.
- Vaginal examination (VE) offered 4 hourly, or where there is concern about progress or in response to the pregnant woman or person's request. Informed verbal consent should be documented prior to the examination. The following information should be observed and documented on MIS:
    - Cervical effacement
    - Cervical consistency
    - Cervical dilatation
    - Application of the presenting part to the cervix
    - Presentation and presence and degree of caput and moulding
    - Position
    - Station
    - Membrane status (intact or ruptured)
    - Liquor colour if ruptured membranes
    - Swab/cotton wool ball count and check prior to and post examination

9.3 Monitoring fetal condition

See CG1116 Fetal Monitoring Guideline

An hourly risk assessment pathway is to be documented within MIS in the fetal monitoring labour review. This assessment should include:

- Antenatal Risk factors reviewed.
- Any new or developing intrapartum risk factors.
- Type of fetal monitoring and if it is appropriate for level of risk.
- Discussion taken place with woman or birthing person.
- Adequate analgesia
- Bladder care
- Hydration and nutrition
- Posture
- Liquor concerns
- Fetal heart assessment
- Partogram review
- Escalation plan

The fetal heart should be documented every 15 minutes for 1 minute after a contraction on the partogram; any deviations from normal should be documented on MIS with a plan of care.

If deviations from the normal occur and continuous EFM is required, the woman or birthing person should be cared for on the Labour Ward and the Obstetric Registrar informed if CTG becomes pathological. In this case, the review and a management plan should be documented on MIS.

The partogram should be maintained with both intermittent auscultation and continuous electronic fetal monitoring (EFM).

If no fetal heart is detected, an urgent real-time ultrasound assessment to check fetal viability should be offered.

9.4 Monitoring progress during the 1st stage of labour

The midwife has a responsibility to ascertain that progress in labour is satisfactory and that failure to progress is detected and acted upon without delay. The partogram should be used throughout labour to monitor progress.

9.4.1 Definition of delay in 1st stage

A diagnosis of delay in the active 1st stage of labour needs to consider all aspects of progress in labour and should include the following:

- Cervical dilatation of less than 2 cm in 4 hrs for first labours.
- Cervical dilatation of less than 2 cm in 4 hrs or a slowing in the progress of labour for second or subsequent labours.
- Lack of decent and rotation of the fetal head.
- Negative changes in strength, duration and frequency of contractions or the presence of hyperstimulation (assessed manually).
- Any signs of feto pelvic disproportion.

9.4.2 Management of 1st stage delay

Where delay in the established first stage is suspected the following should be considered:

- Parity.
- Cervical dilatation and rate of change.
- Uterine contractions.
- Station and position of presenting part.
- The pregnant woman or birthing person's emotional state.
- Consider emptying bladder.
- Referral to the appropriate healthcare professional.

If delay in the established first stage of labour is suspected, amniotomy should be considered for all women and birthing people with intact membranes. The procedure should be explained and consent documented.

If the pregnant woman or birthing person declines amniotomy, VE should be advised 2 hours later, and if progress is less than 1cm a diagnosis of delay should be made.

In cases of amniotomy for delay, VE should be carried out 2 hours following to check continuing progress.

In all stages of labour, pregnant women and birthing people who have left the normal care pathway because of the development of complications can return to it if/when the complication is resolved.

9.4.3 Referral to obstetric team:

When delay in the established first stage of labour is confirmed (see 10.3.1) the pregnant woman or birthing person should be referred to the Obstetric Registrar for review and subsequent plan (see 'CG1119 Induction and augmentation of labour and use of oxytocin' guideline).

10.0 Nutrition in labour

There is insufficient evidence to support the practice of starving pregnant women and birthing people in labour in order to lessen the risk of gastric acid aspiration. Fasting may result in dehydration and acidosis which, combined with starvation and fatigue, can increase the need for active management and instrumental birth.

Pregnant women and birthing people may eat a light diet (such as toast/biscuits) in established labour unless they have received opioids or they develop risk factors that make a general anaesthetic more likely.

Following the use of parenteral opioids for pain relief or epidural analgesia, consider limiting the oral intake to non-fizzy isotonic drinks or water.

Recommendation on reducing gastric aspiration:

- Routine use of regular acid aspiration for low-risk pregnant women and birthing people is not recommended.
- Consider regular acid aspiration prophylaxis for pregnant women and birthing people who receive opioids or who have or develop risk factors that make a general anaesthetic more likely.
- Administer oral Omeprazole 20mgs 12 hourly until birth to high risk labouring women and birthing people having continuous electronic fetal monitoring (in cases of suspected renal or liver impairment refer for obstetric review prior to administration).

11.0 Pressure area care

All patients are potentially at risk of developing pressure ulcers; however, they are more likely to occur in pregnant women and birthing people, for example, with limited mobility or activity, diabetes, or limited bladder and bowel control. Please see the 'CG20011 Maternity Pressure Area Care' guideline.

12.0 Pain Management

- Labouring women and birthing people should be offered support and encouragement to help them cope with the pain of contractions.
- Advice should be given on breathing and relaxation techniques.
- Low risk pregnant women and birthing people should be offered the opportunity to labour and birth in water. The benefits of hydrotherapy for pain relief should be explained to all women and birthing people.
- Transcutaneous electrical nerve stimulation (TENS) should not be offered to women and birthing people in established labour.
- Midwives should feel confident to support women and birthing people in hypnobirthing.
- Pregnant women and birthing people are to be informed of their choices regarding all analgesia available to them.

12.1 Pharmacological analgesia

- Entonox.
- Morphine sulfate IM 10milligrams 4hrly in established labour to a max dose of 15milligram (under midwife exemptions).
- Epidural.
- Remifentanil Patient Controlled Analgesia (PCA) (used in selected cases – see Trust 'CG12027 Remifentanil Patient Controlled Analgesia in Labour' guideline).

Morphine should be given with an intramuscular antiemetic i.e. prochlorperazine (Stemetil) 12.5milligram injection 8 hourly.

12.2 Care and observations for women and birthing people with regional analgesia in labour

Please see CG12009 PCEA Guideline for full guidance.

- Intravenous access should always be secured prior to commencing regional analgesia.
- Pre epidural CTG to be completed for 30 minutes. If normal, revert to intermittent auscultation (IA). After each bolus over 10mls, perform another CTG. If normal, IA can be recommenced.
- A CTG should be performed on insertion of an epidural for at least 30 minutes during establishment of regional analgesia. If the CTG is normal this can be discontinued and IA used unless there are other risk factors that indication CEFM throughout labour. A CTG should be recommenced, if discontinued, after any epidural boluses of 10ml or more.
- Preloading and maintenance fluid infusion need not be administered routinely before establishing low-dose epidural analgesia and combined spinal–epidural analgesia. However if there are clinical or biochemical signs (urine ketones) of dehydration it needs to be corrected prior to spinal/epidural analgesia. See Trust 'CG21009 Maternity fluid management as an in-patient & during labour' guideline.

The following additional observations should be undertaken for women and birthing people with regional analgesia:

- During establishment of regional analgesia or after further boluses (10 ml or more of low dose solutions) blood pressure should be measured every 5 minutes for a minimum of 20 minutes.
- If the woman or birthing person is not pain free 30 minutes after each administration of local anaesthetic/opioid solution, the anaesthetist should be informed.
- Hourly assessment of the level of the sensory block should be undertaken and documented on the epidural chart.

Women and birthing people with regional analgesia should be encouraged to move frequently and adopt whatever upright positions they find comfortable throughout labour.

Women and birthing people with regional analgesia are at increased risk of pressure injuries. Please see 'CG20011 Maternity Pressure Area Care' guideline for information on optimal pressure area care in labour.

Once established, regional analgesia should be continued until after completion of the third stage of labour and any necessary perineal repair.

13.0 Management of the second stage of labour

13.1 Confirmation of second stage

Second stage is confirmed either by full dilatation of the cervix on vaginal examination or by a visible presenting part at the perineum.

Passive stage:
This is when the woman or birthing person is found to be fully dilated but has no urge to push. They should not be encouraged to push at this stage.

Active stage:
The woman or birthing person has a strong sensation to push or bear down and they should be encouraged to follow their instincts. Active pushing should only be commenced if full dilatation of the cervix has been confirmed by vaginal examination.

13.2 Monitoring maternal condition

- Pulse every 15 minutes as a minimum (consider woman or birthing person's condition which may indicated additional monitoring).
- Hourly blood pressure (consider woman or birthing person's condition which may indicated additional monitoring).
- 4 hourly temperature unless signs of infection which would necessitate more frequent observation.
- Assess frequency and strength of contractions every 30 minutes.
- Offer vaginal examination hourly or as the woman or birthing person wishes.
- Encourage bladder emptying (refer to Trust 'CG1137 Bladder Care for Maternity Patients Guideline' guideline).

13.3 Monitoring fetal condition

During passive and active second stage:

- The fetal heart should be recorded every 5 minutes.
- This 5 minutely recording of the fetal heart is still required when a CTG is in progress.
- Be aware that it is particularly important to confirm the fetal heart rate in the second stage of labour, when it is easier to mistakenly auscultate maternal and birthing parent heart rate rather than fetal heart rate.

See CG1116 Fetal Monitoring for further points regarding second stage considerations with CTGs.

13.4 Commencing pushing

As a guide, the midwife should support pushing only when the contractions become expulsive and full dilatation is confirmed by vaginal examination. Directed pushing and / or the use of the Valsalva manoeuvre should not be encouraged if the second stage is progressing normally.

Where possible, labouring women and birthing people should be encouraged to adopt a comfortable upright position such as standing, squatting, sitting or kneeling positions which are most likely to facilitate a spontaneous vaginal birth.

Upon confirmation of full cervical dilatation in women and birthing people with regional analgesia unless the women or birthing person has an urge to push or the baby's head is visible, pushing can be delayed for at least one hour and longer if the woman or birthing person wishes, after which pushing during contractions should be actively encouraged.

Following the diagnosis of full dilatation in a woman or birthing person with regional analgesia, a plan should be agreed with the woman or birthing person in order to ensure that birth will have occurred within four hours regardless of parity.

13.5 Monitoring the progress of second stage

Progress in the second stage of labour is defined as advancement of the presenting part, in the presence of expulsive contractions with a stable maternal and fetal condition.

Progress in second stage should be assessed hourly and should include abdominal assessment of the descent of the head.

13.6 Defining lack of progress

Lack of continuing progress in second stage of labour with adequate contractions can be defined as follows:

	WITHOUT EPIDURAL		WITH EPIDURAL	
	Nulliparous	**Multiparous**	**Nulliparous**	**Multiparous**
Passive	1 hour, unless urge to push	1 hour, unless urge to push	Up to 2 hours	1 hour
Active	• Birth should be expected within 3 hours of the start of active second stage in most women and birthing people. • After 1 hour of active pushing, reassess and offer vaginal examination and consider amniotomy if the membranes are intact. • If birth not imminent after 2 hours of pushing, refer woman or birthing person for a senior review and a decision on place and mode of birth.	• Birth would be expected to take place within 2 hours of the start of the active second stage in most women and birthing people. • After 30 minutes of active pushing, reassess if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact. • If birth is not imminent after 1 hour of pushing, refer the woman or birthing person for senior review and decision on place and mode of birth.	• Birth would be expected to take place within 3 hours of the start of the active second stage in most women and birthing people but be aware that these women and birthing people may have had a passive stage of up to 2 hours after full dilatation before commencing active pushing. • After 1 hour of active pushing reassess and offer vaginal examination and consider amniotomy if the membranes are intact. • If birth not imminent after 2 hours of pushing, refer the woman or birthing person for a senior review and a decision on place and mode of birth.	• Birth would be expected to take place within 2 hours of the start of the active second stage in most women and birthing people but be aware that these women and birthing people may have had a passive stage of up to 1 hour after full dilatation before commencing active pushing. • After 30 minutes of active pushing, reassess if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact. • If birth is not imminent after 1 hour of pushing, refer the woman or birthing person for senior review and decision on place and mode of birth.

13.7 Management of delay in progress in the second stage

- Pregnant women and birthing people with intact membranes should be offered amniotomy.
- Consider emptying the bladder.
- Consider commencing EFM.

14.0 Management of the third stage of labour

The overall aim must be to ensure safe and effective care is provided to women and people whilst allowing women and birthing people to make an informed choice regarding delivery of the third stage.

Midwives should discuss with pregnant women and birthing people prior to birth both active and physiological management of the third stage, and their choice should be documented in their birth plan.

Midwives should also be skilled in both active and physiological approaches and avoid unevaluated mixed third stage management.

Delayed/ deferred cord clamping is recommended by 1-3 minutes after birth to allow placental transfusion, unless the need for neonatal resuscitation is recognised. The timing of cord clamping does not appear to have a major impact on blood loss at the time of birth.

Those handling blood products should wear gloves and goggles.
Preferably the woman or birthing person should enter the third stage of labour with an empty bladder.

The placenta and membranes should be inspected at the earliest possible opportunity, and blood loss estimated. Cord and maternal blood samples obtained if mother is Rhesus negative or cord PH values are required.

14.1 Active management

Active management is defined as the administration of a prophylactic uterotonic as soon as possible after the birth (and delayed cord clamping), followed by clamping and cutting of the cord and delivery of the placenta by controlled cord traction.

Active management of the third stage is recommended routinely, as it is associated with reduced blood loss, reduced incidence of postpartum haemorrhage and shorter duration of the third stage.

For active management of 3rd stage in vaginal births, oxytocin 10 units by intramuscular (IM) injection should be given with the birth of the anterior shoulder, or immediately after the birth

of the baby and before the cord is clamped and cut (NICE 2017). This is the uterotonic recommended to reduce the risk of postpartum haemorrhage (PPH) by RCOG (2016).

The cord is clamped and cut taking care to minimise the risk of blood contamination to those present. Await strong uterine contraction confirmed by abdominal palpation. Steady downward traction is applied to the cord with one hand while maintaining upward counter pressure on the lower abdomen with the other hand. The placenta and membranes are delivered gently in an outward and upward direction.

With active management delivery of the placenta should be achieved within 30 minutes.

14.2 Physiological management

Physiological management is defined as a 'hands off' approach for the delivery of the placenta and membranes. The uterotonic drug is not given and the cord is not clamped (or at least until pulsation has ceased or if the mother requests clamping and cutting).

A physiological third stage of labour can be offered to **low risk** women and birthing people who have had a physiological 1st and 2nd stage and the following are present:

- >37 weeks.
- Singleton cephalic birth.
- A low risk of postpartum haemorrhage (PPH).
- Not in the exclusion group (see below).

Ideally there should have been no procedures known to interfere with the natural release of oxytocin e.g. IV syntocinon, prostaglandins, epidural, narcotic analgesia.

Following the birth of the baby, the mother or birthing parent and baby should be encouraged to bond in a warm, calm environment, breast feed if appropriate and allow natural separation of placenta and membranes to occur. They should be encouraged to adopt an upright position. Once the midwife has observed signs of placental separation, the woman or birthing person can be asked to bear down to aid delivery of the placenta.

The cord should be left alone until physiological separation occurs unless there is an indication to intervene. If the mother or birthing parent requests the cord to be clamped and cut, there should be a natural cessation of cord pulsation before clamping and cutting to gain equilibrium between baby and placenta.

The following factors may assist separation or expulsion:

- Putting the baby to the breast.
- The mother or birthing parent adopting an upright position.
- Maternal or birthing parent expulsive efforts.
- Quiet, warm room.
- Emptying of bladder.

Delivery of the placenta is anticipated within one hour by maternal and birthing parent effort only. Physiological management should never include controlled cord traction.

Change from physiological management to active management in the case of:

- Haemorrhage.
- Failure to deliver the placenta within 1 hour.
- The woman or birthing person's desire to artificially shorten the third stage.
- Neonatal resuscitation required.

14.2.1 Exclusions to physiological management of the third stage of labour

Previous caesarean section	Polyhydramnios
Multiple pregnancy	Fibroids
Active first stage of labour over 15 hours	Operative birth
Prolonged 2nd stage	Macrosomic fetus
Low Hb (< 100g/L) and/or platelets (<100)	Previous PPH
Hypertension/pre-eclampsia	Intramuscular narcotic analgesia during labour
Epidural anaesthesia	BMI >30
Intrauterine death	Previous retained placenta
Pre-existing bleeding disorders	Modified WHO 2 heart disease
Induction of labour or augmentation (including ARM)	

This list is not exhaustive and each case should be assessed on an individual basis.

14.3 Referral to obstetric team

Obstetric medical team referral should be considered if the placenta remains undelivered after:

- 30 minutes following active management.
- 60 minutes following physiological management.

14.4 Placental cord drainage

This practice is an evidence based alternative for when a physiological third stage is requested but for maternal and birthing parent or neonatal reasons has had to be curtailed.

It can be used with active or physiological management after a normal birth.

- The cord is clamped and cut and the clamp from the maternal or birthing parent end of cord is removed. This will minimise back flow of blood to mother or birthing parent and reduce turgidity.
- Do not milk the cord.

- Wait for natural separation and expulsion of placenta and membranes.

14.5 Monitoring of maternal or birthing parent condition

Vaginal blood loss and general condition should be observed during the 3rd stage.

For active management, blood pressure, pulse and temperature should be recorded after the delivery of placenta.

During physiological third stage, consider blood pressure and pulse after 30 minutes and then repeat including temperature following delivery of placenta**.**

14.6 Placental histology

Cases that require placental histology:

- Miscarriage (14+1-23+6 weeks).
- FGR <3rd centile or drop in growth velocity >50 percentiles.
- Fetal hydrops.
- UA Dopplers (absent/reversed end diastolic flow).
- Monochorionic twins with TTTS.
- Preterm birth <32 weeks.
- <32-week-onset severe PET.
- Severe sepsis with maternal ITU admission and/or fetal sepsis requiring ventilation or level 3 NICU (placenta swabs taken at birth).
- Massive placental abruption with retroplacental clot.
- Severe fetal distress pH<7.05 / BE≥-12/scalp lactate >4.8mmol.
- Caesarean paripartum hysterectomy for morbidly adherent placenta.
- Stillbirth or early neonatal death.
- MTOP (if requested by screening).

Please see Appendix 4 for transport medium and where to send the placenta. Placenta histology should be requested on ICE.

15.0 Care of the mother or birthing parent and baby immediately after birth

15.1 Initial assessment of the mother or birthing parent

Maternal and birthing parent observations taken following the birth of the baby should include:

- Temperature, pulse, blood pressure, respirations, uterine contraction, lochia.
- Examination of placenta and membranes to assess their condition, structure, cord vessels and completeness.

- Early assessment of maternal or birthing parent emotional/psychological condition in response to labour and birth.
- Successful voiding of the woman or birthing person's bladder (within 6 hours).

15.2 Initial care of the baby

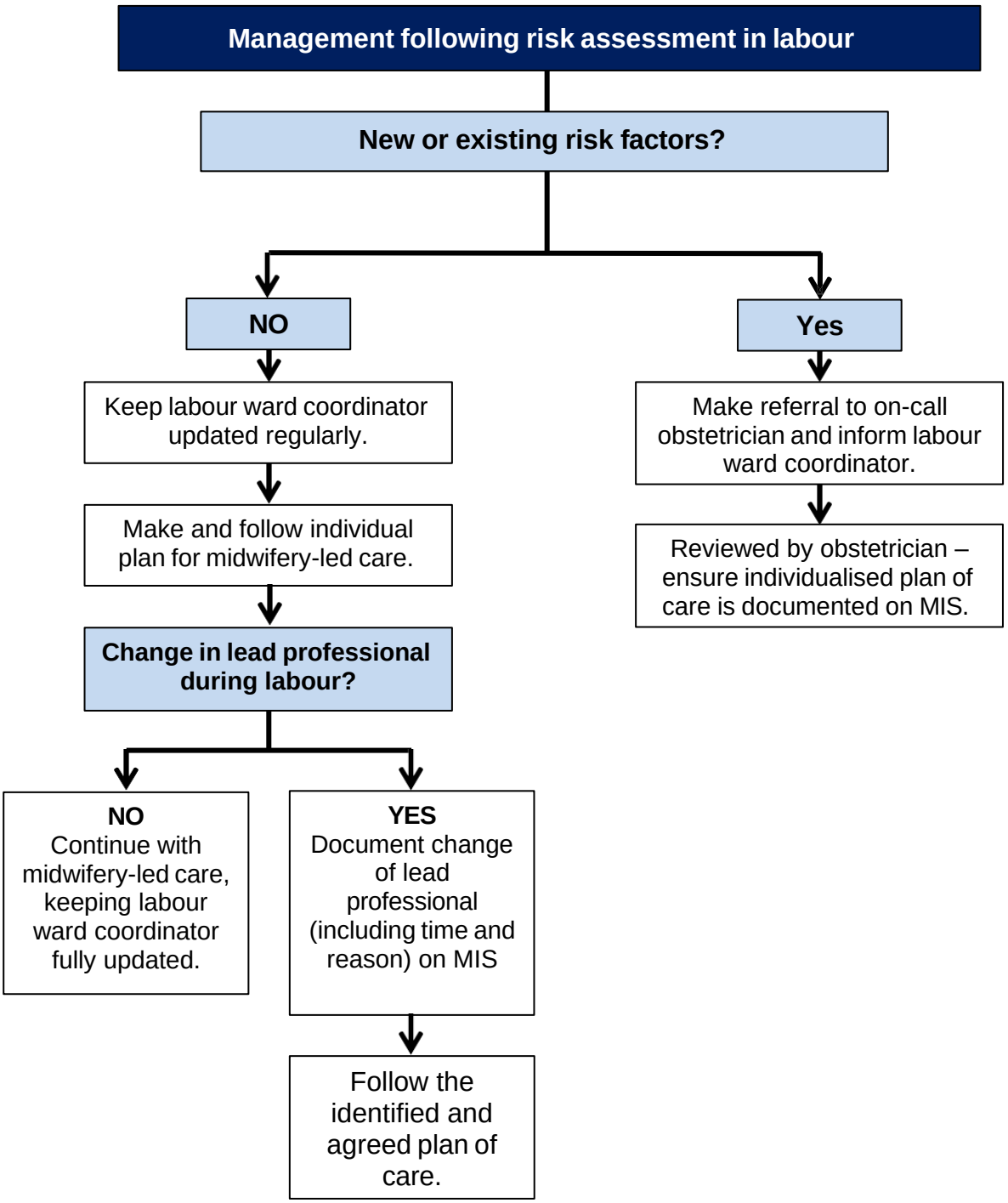
- Women and birthing people should be encouraged to have skin to skin contact with their babies as soon as possible after the birth for at least an hour if possible.
- In order to keep the baby warm, dry the baby and cover with a warm, dry towel while maintaining skin to skin contact with the woman or birthing person.
- Initiation of breast feeding should be encouraged as soon as possible after the birth, ideally within one hour (see the Trust 'CG1129 Newborn Feeding' guideline).
- Head circumference, temperature, birth weight and birth centile should be recorded soon after the first hour following birth.
- Vitamin K offered.
- Undertake initial examination of the newborn in the presence of the parents with their consent. This should be documented on MIS.

16.0 Monitoring

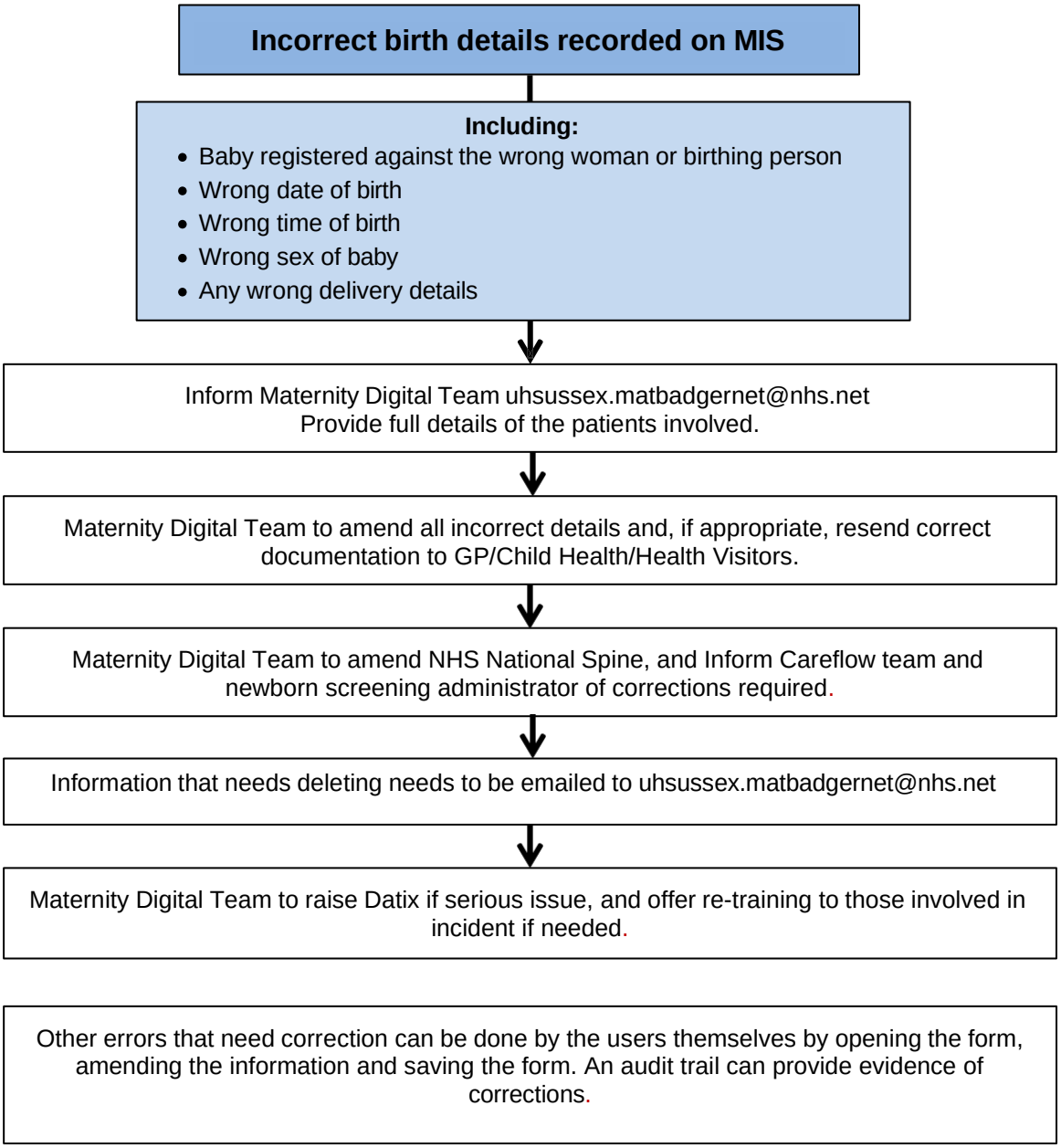
Suggested auditable standards – refer to NICE Quality Standard QS105

Contact the Maternity Clinical Effectiveness Team for audit priorities.

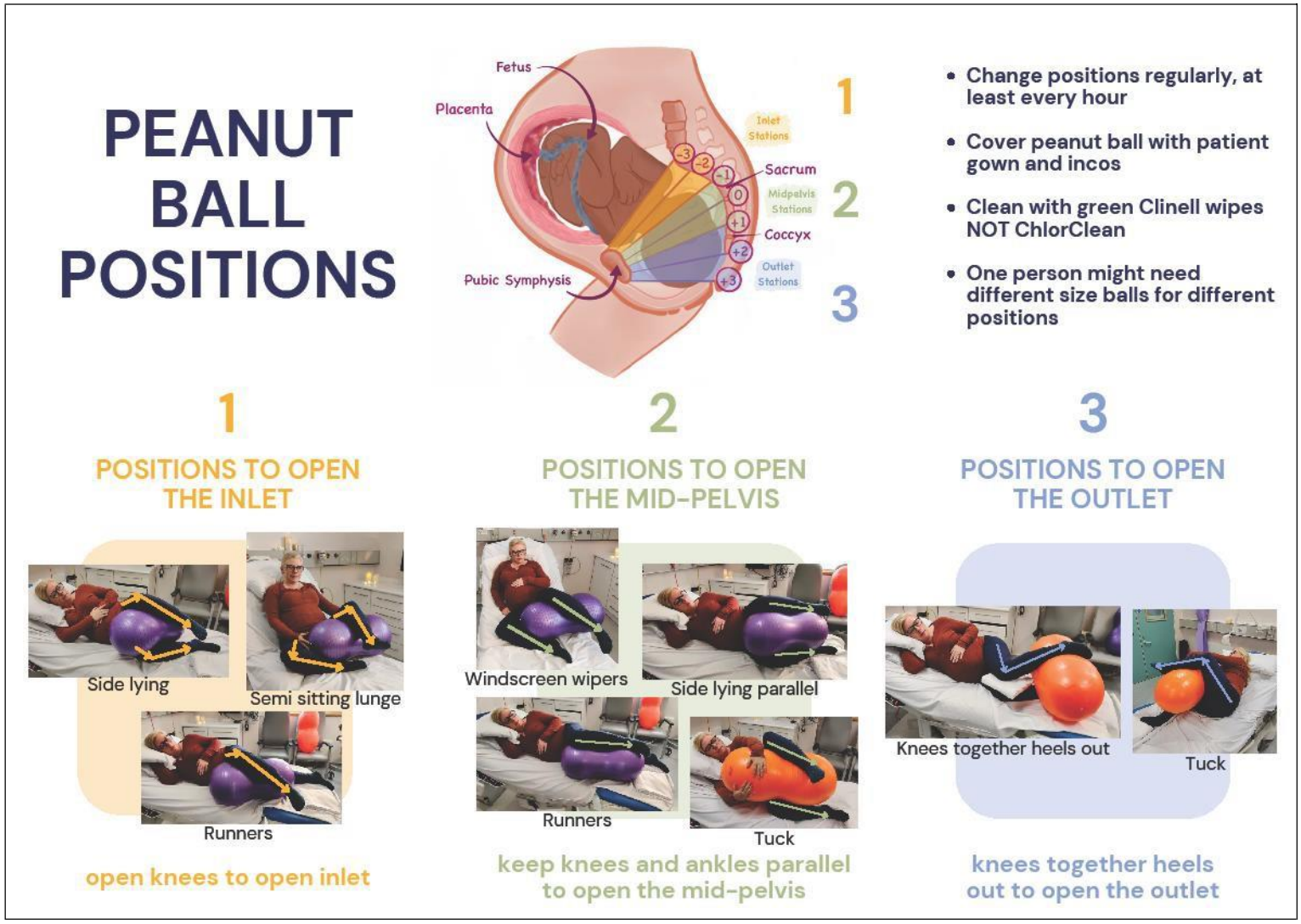
Appendix 1: Management following risk assessment in labour



Appendix 2: Maternity Information System (MIS) errors



Appendix 3: Peanut Ball Positions



Appendix 4: Placental histology

Stop! Does this placenta need to be sent for histology?

- **Miscarriage (14+1-23+6 weeks).**
- **FGR <3rd centile or drop in growth velocity >50 percentiles.**
- **Fetal hydrops.**
- **UA Dopplers (absent/reversed end diastolic flow).**
- **Monochorionic twins with TTTS.**
- **Preterm birth <32 weeks.**
- **<32-week-onset severe PET.**
- **Severe sepsis with maternal ITU admission and/or fetal sepsis requiring ventilation or level 3 NICU (placenta swabs taken at birth).**
- **Massive placental abruption with retroplacental clot.**
- **Severe fetal distress pH<7.05 / BE≥-12/scalp lactate >4.8mmol.**
- **Caesarean paripartum hysterectomy for morbidly adherent placenta.**

If yes to any of the above:

1. In a well-ventilated area, select a large specimen container (bucket) and ensure the lid fits tightly.
2. Put the placenta in the bucket.
3. Pour formalin (10% formal saline) over it, covering it to **about five times** the volume of the placenta.
4. Put the lid on.
5. Label the bucket **only** (not lid) with:
    a. The patient's name and date of birth and hospital number.
    b. The nature of **specimen** – placenta.
    c. The ward – labour ward.
    d. Date of specimen.
    e. Securely attach the specimen label from ICE
6. Call porter to collect specimen.

- **Stillbirth or early neonatal death**
- **MTOP (if requested by screening)**

In cases of Stillbirth or early neonatal death or MTOP:

1. Keep the placenta in a pot but do not add formalin until you have confirmed that the placenta is to be sent for histology.
2. Remember that a live born baby at any gestation, who then dies, may require a Coroner's PM, so do not add formalin to the placenta, even if the parents do not request a PM, until this has been discussed with the Coroner.
3. **The placenta must be refrigerated in these cases.**

Appendix 5: Guideline Version Control Log

This should be included for all updated guidelines, summarising the changes between the current and previous version. (Earlier changes should be deleted from the list when the guideline is updated.)
Do not list minor and stylistic changes or changes which do not alter the processes described. If the update includes a significant reorganisation of the material, indicate this and list the main areas where the process itself has changed.

Version	Date	Author	Status	Comment
1.0	24th September 2010	Labour ward Co-ordinators	Archived	New Trust wide guideline
2.0	February 2011	CNST Midwife	Archived	Minor administrative amendment
3.0	December 2011	CNST Midwife	Archived	Amended to include spontaneous rupture of membranes at term
4.0	September 2013	CNST Midwife	Archived	3 yearly update
4.1	August 2014	Patient Safety Midwife	Archived	Addition of monitoring of fetal heart for in-patients during the latent phase
5.0	August 2016	Labour Ward Coordinator	Archived	Minor additions and review
5.1	Dec 2016	Clinical Effectiveness Midwife & JOGG	Archived	Minor addition to swab count
6	March 2017	Obstetric Consultant leads for Labour/Delivery ward & Clinical Effectiveness Midwife	Archived	Updates from Feb 2017 NICE Guideline and Merge of labour Risk Assessment guideline
7	May 2018	Obstetric Consultant leads for Labour/Delivery ward & Clinical Effectiveness Midwife	Archived	Updated with Placental Pathway
8	August 2018	Clinical Effectiveness Midwife	Archived	Updated with Maternity In formation error process
8.1	September 2019	Clinical Effectiveness Midwife (S. Davies)	Archived	Section 14 updated - active 3rd stage uterotonic changed in line with RCOG (2016) and Trust PPH guideline
8.2	July 2020	Clinical Effectiveness Support Midwife (S. Harris)	Archived	Updates from NICE Quality Care Standards (Feb 2020) and addition of pressure area care guidance. For review in 2 years as this was not a full review.
8.3	November 2020	Midwife	Archived	NICE CG132 Caesarean Section recommendation against early amniotomy and active management of labour to reduce incidence of CS for 'failure to progress' added.

9.0	July 2021	Clinical Effectiveness Support Midwife	Archived	3 year review. Fluid balance management added. Fetal monitoring in second stage amended to align with Trust Fetal Monitoring Guideline. Antacids and opioids updated.
9.1	January 2024	Obstetric Consultant CE Team Fetal Monitoring Midwives	LIVE	Information on Peanut Balls added. Amended to align with NICE NG229 Fetal Monitoring in Labour Criteria for Placental histology updated to align with RCPath 2022 guidelines

Appendix 6: 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 7: 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 are 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 as part of the uploading onto sharepoint process.
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 social media.

Appendix 8: Additional guidance and information

Use this section to list any statutory, legal, national, or other authoritative documents which have informed the content of this guideline.
Wherever possible, give online addresses, either on the Trust intranet or authoritative internet sites (DoH, NICE etc).
If any listed document is not available electronically, list the date, author, publisher, and full name.

Anderson, G C et al (2006) 'Early skin-to-skin contact for mothers and their healthy newborn infants' The Cochrane database of Systematic Reviews, Issue 3.

Baker C (1996) Nutrition and hydration in labour. British Journal of Midwifery 4: pp 568-572.

Barrera, E. and Acosta, L. (2022) 'Spinning Babies® a Professional Development Program for Birth Workers to Reduce C-Section Rates'. 2022 SMH Best Practice Fair. 8.

Begley, C. et al. 2010. Cochrane review

Broach J, Newton N (1988) Food and beverages in labour. Part II: the effects of cessation of oral intake during labour. Birth 15: pp 88-92.

Buckley, S.J. 2004 "Unlocking the potential for normality" The Practising Midwife 7 (6) pp 15-17

Cheyne, H et al 2007 "Should I come in now? A study of women's early labour experiences" British Journal of Midwifery 15 (10) pp 604-609

Delgardo, A et al. (2022) Effectiveness of the peanut ball use for women with epidural analgesia in labour: a systematic review and meta-analysis, Journal of Obstetrics and Gynacology, 42:5, 726-733.

Dixon L, et al (2011) Systematic Review: The Clinical Effectiveness of Physiological (Expectant) Management of the Third Stage of Labor Following a Physiological Labor and Birth. International Journal of Childbirth. Vol1, Issue 3 (2011).

Downe, S 2003 Transition and the Second Stage of Labour in Myles Textbook for Midwives edited by Fraser, D.M & Cooper, M.A Churchill Livingstone, Edinburgh edited

Enkin M, Keirse MJNC, Neilson J et al. (2000) A Guide to Effective Care in Childbirth. Oxford: Oxford University Press.

Foulkes J, Dumoulin J (1985) The effects of ketonuria in labour. British Journal of Clinical Practice 39: pp 9-62.

Fraser W, Turcot, Krauss I, Brisson-Carrol G (2004) Amniotomy for shortening spontaneous labour (Cochrane Review) In: The Cochrane Library, Issue 1 Chichester, UK: John Wiley & Sons, Ltd.

Frye A (1994) Nourishing the mother. Midwifery Today 31 (Autumn): pp 25-26.

Grant J (1990) Nutrition and hydration in labour in Alexander J, Levy V, and Roch S (eds) Midwifery Practice Intrapartum Care : A research-based approach London: Macmillan Education: pp 58-69.

Goffnet F, Fraser W, Marcoux S, Breart G, Moutquin J, Daaris M (1997) Early amniotomy increases the frequency of fetal heart abnormalities. British Journal of Obstetrics and Gynaecology 104: pp 40-346.

Hobbs L (1998) Assessing cervical dilatation without VEs – Watching the purple line. The Practising Midwife. 1(11) pp 34-35.

Iversen, M.L. et al. (2017) 'Danish women's experiences of the rebozo technique during labour: A qualitative explorative study', *Sexual & Reproductive Healthcare*, 11, pp. 79–85. doi:10.1016/j.srhc.2016.10.005.

James D, K, et al (1999) High risk pregnancy, management options (2nd edition) pp1106-11.

Kean L. et al (2000) "Best Practice in Labor Ward Management, First Edition", Saunders.

Odent M (1994) Labouring women are not marathon runners. Midwifery Today 31 (Autumn) pp 3-51.

MIDIRS (1996) Informed Choice Leaflet No. 5 Position in Labour and Delivery. MIDIRS and The NHS Centre for Review and Dissemination: Bristol.

National Institute for Health Care Excellence (2023) Intrapartum Care

National Institute for Health Care Excellence (2023) NICE NG229 Fetal Monitoring in Labour

NHS (2003) All Wales Clinical Pathway for Normal Labour.

Nursing & Midwifery Council (2009) NMC Record keeping: Guidance for nurses and midwives NMC: London.

Royal College of Midwives 2004 Position Statement 4 "Normal Childbirth"

Royal College of Obstetricians and Gynaecologists (2015) Scientific Impact Paper No. 14: Clamping of the cord and placental transfusion. RCOG. [Accessed Online on 22nd August 2016] https://www.rcog.org.uk/globalassets/documents/guidelines/scientific-impact-papers/sip-14.pdf

RCOG (2016) Postpartum Haemorrhage, Prevention and Management (Green-top Guideline No. 52). https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg52/

Saunders NJ et al, (1989) BMJ. Dec 9; 299(6713):1423-6.

Sears, D. (2023) 'The Impact of the Spinning Babies Method on Labor Duration and Delivery Outcome', *Walden Dissertations and Doctoral Studies*. 13765.

Sutton, J 2001 Let birth be born again: Rediscovering and Reclaiming our Midwifery Heritage. Birth Concepts, Feltham, Middx

Zwillinger E.E. and Burke J. (2023) 'Cesarean birth reduction: EBP in action', *American Nurse Journal*, 18(9), pp. 50-54. doi:10.51256/anj092350