Care during labour and Birth

Classification:	Guideline
Authors Name:	Anja Johansen-Bibby, Lauren Mitchell, Janice Styles, Rachael Bickley
Authors Job Title:	Consultant Obstetrician, Consultant Midwife, Consultant Midwife, MVP Co-chair
Authors Division:	Women and Children's
Departments/Group this Document applies to:	Maternity

Approval Group: **Women's health guideline review group** **Women's health CIG**	**Date of Approval:**	Jun 2022
	Last Review:	Apr 2022
	Review Date:	Apr 2025

Unique Identifier: MIDW/GL/183	**Status:** Approved	**Version No:** 2.1

Guideline to be followed by (target staff): All Maternity Staff

To be read in conjunction with the following documents:

- MKUHFT, *Fetal Monitoring Guideline,* MIDW/GL/48, Version 6, 2018
- MKUHFT, *Induction of Labour Guideline,* MIDW/GL/11, Version 6.1, 2018
- MKUHFT, *Obstetric Haemorrhage Guideline,* MIDW/GL/125, Version 3, 2017
- Intrapartum care for healthy women and babies (NICE 2014, updated 2017)
- MKUHFT, *Standard Operating Procedure for the Midwifery Led Unit,* 2019
- MKUHFT, *Vaginal Birth after Caesarean,* MIDW/GL/98, Version 4, 2016
- MKUHFT, *Multiprofessional Handover of Care (maternity),* MIDW/GL/100, Version 5, 2015

CQC Fundamental standards:

Regulation 9 – person centred care
Regulation 10 – dignity and respect
Regulation 11 – Need for consent
Regulation 12 – Safe care and treatment
Regulation 13 – Safeguarding service users from abuse and improper treatment
Regulation 14 – Meeting nutritional and hydration needs
Regulation 15 – Premises and equipment
Regulation 16 – Receiving and acting on complaints
Regulation 17 – Good governance
Regulation 18 – Staffing
Regulation 19 – Fit and proper

Disclaimer –

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

Index

Guideline Statement 3
Executive Summary 3
Definitions 4
1.0 Roles and Responsibilities: 4
2.0 Implementation and dissemination of document 4
3.0 Processes and procedures 5
3.1 Telephone Triage 5
3.2 Face-to-face Initial Assessment 5
3.3 Early labour 7
3.4 Principles of care throughout labour 8
3.5 Established First Stage of Labour 10
3.6 Progress and duration of the first stage of labour 12
3.7 Delay in the First Stage of Labour 12
3.8 The Second Stage of Labour 14
3.9 Neonatal Resuscitation 18
3.10 The Third Stage of Labour 19
3.11 Care of the mother and newborn after birth 22
4.0 Statement of evidence/references 23
5.0 Governance 23
5.1 Document review history 23
5.2 Consultation History 23
5.3 Audit and monitoring 27
5.4 Equality Impact Assessment 29
Appendix 1: First Stage of Labour Algorithm 31
Appendix 2: 2nd Stage of Labour Algorithm 32
Appendix 3: Retained Placenta Algorithm 33
Appendix 4: Staying comfortable in Labour Information leaflet 34

Guideline Statement

This guideline is intended to outline the minimum standard of care for all service users in labour within Milton Keynes University Hospital Foundation Trust (MKUH). The care of service users and their babies who birth at home or who have pregnancy complexities or conditions requiring additional monitoring should be informed by this and other appropriate guidelines.

"Women should have choice in how to access the Maternity Service, choice of antenatal care, choice of place of birth and choice of postnatal care" (NICE, 2017).

"All women in established labour should receive one to one care from a midwife". (NICE, 2017).

In this guideline, we use the terms maternity service users as well service user and women's health. We acknowledge however that some people who do not identify as women will use our services. We aim to give all those who access the maternity service, appropriate, inclusive and care sensitive to their individual needs.

Executive Summary

This guideline is based on NICE Intrapartum care for healthy women and babies (NICE, 2014, updated 2017). It includes guidance on initial and subsequent assessment, ongoing care in established labour, frequency of observations, analgesia, complementary therapies, psychological support of maternity service users and their carers/ family, initial postnatal care, management from deviations of the normal and debrief.

The course of labour and birth is a dynamic process in which service users may have multi-disciplinary team input in order to ensure the provision of responsive, safe and effective care. The service user MUST be at the centre of care provided. The women should have input from the multi-professional team to provide information to enable an informed choice and decision regarding ongoing provision of care; the team will respect the service user's decision.
All care decisions must be discussed with the service user face to face, to enable questions and further information to be provided. These discussions should be documented in the maternity records along with the agreed management path.

The communication needs of the service user should be considered to enable equity of access to intrapartum care and ensure effective communication to facilitate informed choice.

On-going considerations throughout labour should include

- providing one to one supportive care throughout labour
- hydration and nutrition
- supporting and facilitating coping strategies
- encouraging upright, comfortable positions and mobilisation
- considering intervention only when clinically indicated
- Clear communication and informed decision making

Observations must be documented in the partogram on the electronic maternal health records (eCare).

Following discussion with the service user, referral to an Obstetrician is recommended if there are concerns in observations which could change the level of risk of the service user and baby, or if the midwife caring for that maternity service user has concerns. This includes transfer into MKUH from home if appropriate.

Definitions

Maternal Observations – Vital signs as per MEOWS chart.
MEOWS Chart – Maternity early observation warning system chart
VE – Vaginal examination
SROM – Spontaneous rupture of membranes
GBS – Group B streptococcus
CTG – Cardiotocograph
EFM – Electronic Fetal Monitoring
PPH – Post-partum haemorrhage

1.0 Roles and Responsibilities:

- Obstetricians – care in complex pregnancy and labour, decision-making, pre and post-operative care, postnatal care, prescribing, operative interventions
- Midwives – lead care for uncomplicated pregnancy, labour and puerperium, provides care in collaboration with obstetric team for complex pregnancy, labour and puerperium. Decision-making, pre- and post-operative care, postnatal care and care of the newborn infant
- Anaesthetists – To provide analgesia for labour and anaesthesia for operative births and procedures. To be part of multidisciplinary team providing care for those with complex medical and pregnancy related conditions.
- Maternity care assistants – Supporting maternity service users, families and all members of the multidisciplinary team in the delivery of maternity care and provide basic pre and post-operative care
- Nursery Nurses – care of the newborn baby and support of new parents in caring for their baby.
- Paediatricians/ Advanced Neonatal Nurse practitioner (ANNP) — to provide care and collaborative decision-making at the birth of the baby when required.

2.0 Implementation and dissemination of document

This Guideline is available on the Trust workspace and has followed the Guideline review process. It is also available through publication on maternity webpages.

3.0 Processes and procedures

3.1 Telephone Triage

All communication by telephone between a maternity service user or her partner to Maternity Triage must be documented on a BSOTs Telephone Triage assessment paper based call sheet. The call sheet profroma can be found on the intranet – Documentation > Maternity > Maternity Forms.

Any information provided should be communicated in a way which is understandable to the service user and take into account the individuals' situation and pregnancy complexities. This aims to enable the service user to make a fully informed choice on the next step on pathway of care, which must subsequently be respected. Documentation is recorded on the paper based call sheet and must be sent to EDM for electronic storage.

3.2 Face-to-face Initial Assessment

The initial assessment of a maternity service user in labour by a midwife aims to ascertain the wellbeing of both the service user and unborn child and to assess the clinical situation. A review of the service user's birth preferences should form part of this holistic assessment to understand the choices for labour and birth. This allows appropriate plans to be made, in collaboration with the service user for ongoing care. This initial assessment in labour should enable time for the development of trust between the midwife and service user and prioritise a supportive environment allowing the service user time to acclimatise to the situation. This initial review would be expected to take approximately an hour and incorporate their emotional, psychological and physical needs.

This initial assessment should include:

- Welcoming the maternity service user(s), ask how they are and about their wishes, expectations and any concerns
- Orientation to the area, if appropriate.
- Take a history and establish the reason for assessment, e.g. SROM, contractions, etc.
- Enquire regarding previous or current medical history and/or obstetric complications/risks
- Enquire regarding growth scans
- Check GBS status
- Ask about fetal movements
- Establish if there is/has been any vaginal loss, including any bleeding
- Ask about the length, strength and frequency of contractions
- Discuss pain levels. A score of none or a rating between 1-10. Discuss analgesia options available and acceptable for pain relief
- Read and discuss any birth preferences, including coping strategies in labour and birth
- Review handheld and computerised clinical records, including all antenatal screening results.
- Risk assess as either midwife-led or consultant-led care, antenatally and in labour.
- Ensure birth setting is appropriate, according to clinical judgement and the maternity service user's preferences
- Abdominal palpation including fundal height measurement (if appropriate), the fetal lie, presentation, position, engagement of the presenting part, and frequency and duration of contractions.
- Auscultate the fetal heart rate for a minimum of 1 minute immediately after a contraction using either a Pinard stethoscope or handheld Doppler ultrasound. Palpate the maternal pulse to differentiate between the heart rates of the service user and the fetus (es). Record

Fetal heart rate as a single rate. Record any accelerations or decelerations if heard.

- Offer and complete maternal observations as listed below;
  - Temperature
  - Pulse
  - Respirations
  - Oxygen saturations
  - Blood pressure
  - Urinalysis

The use of admission CTG in a low-risk pregnancy is not recommended in any birth setting. In the presence of certain risk factors (**as outlined in the Electronic Fetal Monitoring (EFM) Guideline**), electronic fetal monitoring should be recommended.

If there are any concerns, refer as appropriate for obstetric review.

If the maternity service user appears to be in established labour, a vaginal examination can be offered, with an explanation of the reasons for this, to enable the service user to make an informed choice. Respect any decision of the maternity service user to decline vaginal examinations. Transfer to labour ward once established labour is diagnosed.

Consider a vaginal examination if there is uncertainty about the diagnosis of established labour after a period of assessment. Vaginal examination may not always be necessary.

Latent Phase of Labour	**Established Labour**
Contraction's irregular in strength, ffrequency,and duration (they may be painful)	Regular, painful contractions
There is some cervical change, including cervical effacement and dilatation up to 4cms.	There is progressive cervical dilatation from 4cms

3.3 Early labour

Recognise that a maternity service user may experience painful contractions without cervical change and although, they may not, by definition, be in established labour by definition, however may consider themselves as being 'in labour' . For a multiparous service user, they can be considered to be in established labour if they are having painful regular ongoing contractions without the cervix being 4cm.

Encourage maternity service user's who are in latent or early labour to return home if they feel confident to do so, unless there are concerns they could give birth without a midwife present. Give assurance that they may telephone maternity triage for advice and return at any time. Explain the recommendation to contact maternity triage if the membranes rupture, there is any bleeding or ~~her~~ the baby's movements reduce. The plan of care should be discussed on an individual basis and the service user may remain in hospital if analgesia or support is required.

Offer individualised support, and analgesia if needed. If Pethidine is required, and is effective, the maternity service user can be admitted to the Antenatal Ward to await events, she is not required to remain on Labour Ward.

3.3.1 Meconium Liquor

If a service user is admitted with meconium-stained liquor and is not in established labour, they should NOT be transferred to the antenatal ward and an obstetric review requested. The obstetrician should discuss options for ongoing management in the presence of meconium, which may include induction or augmentation or expedite Caesarean delivery. The service user can then make an informed choice. See Induction of Labour guideline for process.

Explain that the passage of meconium is not, in itself, a risk to the fetus, but aspiration of meconium into the fetal or neonatal lung is associated with neonatal lung disease, which increases neonatal morbidity and mortality. Aspiration may occur antenatally, intrapartum or at delivery and is more likely if the meconium is thick.

If meconium staining of liquor occurs in the pre-term, the Consultant Obstetrician should be informed and a collaborative management plan made, considering the possibility of intrauterine infection.

3.4 Principles of care throughout labour

All maternity service users should be treated with respect and shared decision making should an integral part of their care. Care should be individualised respecting those with additional needs or disability.

3.4.1 Support

- Encourage all maternity service user to have support from chosen birth companion(s).
- All maternity service users in established labour should receive supportive one to one midwifery care. This means not leaving the service user on her own except for short periods or at her request. Should the service user be on her own for either reason, all parties should be aware of the expected time frame and how to contact the midwife if required.

3.4.2 Hydration and nutrition

- Encourage drinking to thirst during labour, avoid excessive water intake
- Isotonic drinks (non-fizzy sports drinks) may be more beneficial than water
- A light diet can be offered in established labour.
- Encouraged women to empty their bladder frequently during their labour

3.4.3 Controlling gastric acidity

- Do not offer either H2-receptor antagonists or antacids routinely
- Proton pump inhibitors (PPIs) should be considered for those more likely to require operative birth, with the potential for a general anaesthetic.

3.4.4 Hygiene Measures

- Universal precautions should be undertaken by staff caring for women in labour, including standard hand hygiene.
- The selection of protective equipment must be based on an assessment of the risk of transmission of micro-organisms and the risk of contamination of the healthcare worker's clothing and skin by blood, body fluids, secretions or excretions.
- Tap water may be used if cleansing is required before vaginal examination.

3.4.5 Clinical intervention

- Clinical intervention should not be offered or advised where physiological labour is progressing and the maternity service user and fetus are well.
- If a concern or problem is identified in the instance of a homebirth, transfer into the hospital should be discussed and considered as appropriate
- In all stages of labour, those maternity service users who have left the normal care pathway because of the development of complications should return to it if/when the complication is resolved, following a discussion with the service user.

3.4.6 Coping strategies and pain relief

- Discuss all options as per 'Staying comfortable in labour' patient information leaflet. (Appendix 4)
- Discuss and provide maternity service users with balanced, non-biased information about available coping strategies, including non-pharmacological techniques
- Breathing, relaxation, aromatherapy and massage techniques can be supported
- The opportunity to labour in water can be recommended as per the waterbirth guideline
- Maternity service users with a history of epilepsy should not be administered pethidine

3.4.7 Positions and mobility

- Maternity service users in labour should be encouraged and helped to move and adopt whatever positions they find comfortable.
- Upright and forward positions should be encouraged as these are associated with a reduction in the length of the first stage of labour and a reduction in the use of epidural analgesia.
- Maternity service users who choose an epidural should be informed of the risk of pressure damage and encouraged to change position at least hourly during the first stage of labour and at least every 30 minutes in the second stage of labour.
- For those in their first labour with an epidural, a left lateral position should be adopted in the active second stage as this can increase the chance of spontaneous vaginal birth
- NB: Lithotomy should only be adopted to facilitate an operative vaginal birth.

3.4.8 Vaginal examinations

- Be sure that the examination is necessary and will add information to the decision-making process.
- Explain the rationale and what will be involved when offering an examination
- Ensure that there is informed consent, privacy, dignity and comfort.
- Recognise that examinations can be distressing, especially if they are already in pain, highly anxious and in an unfamiliar environment. Remind maternity service users that if they wish the examination to stop, for any reason they should ask the midwife/doctor to stop and assure them the examination will stop. Agree with the service user prior to the examination, how they would like to communicate their request for the examination to stop, which may be verbal or non-verbal.
- Encourage relaxation strategies during the examination and consider Entonox for those who find the examination painful or distressing.
- Single use sterile gloves should be used with an appropriate lubrication agent. Tap water may be used if cleansing is required before vaginal examination.

- Explain sensitively the findings of the examination and discuss any impact which these have on the pathway of care to enable the service user to make an informed choice about the continuation of their birth plan.

3.4.9 Monitoring fetal heart rate

- Risk assess the situation to determine the most suitable method for fetal monitoring in labour per Fetal Monitoring Guideline and offer accordingly, regardless of birth setting, detailing the rationale for the recommendation.
- The service user can make an informed choice whether to follow this recommendation and document the decision.
- Escalate to members of the MDT as appropriate
- If at home, offer transfer to MKUH for CTG if intermittent auscultation indicates possible fetal heart rate abnormalities, or the clinical situation changes suggesting continuous monitoring would be appropriate and explain the rationale as to why this is being offered
- Document all discussions and decisions regarding fetal monitoring in the maternity records

3.5 Established First Stage of Labour

The first stage of labour is defined as the regular painful contractions with cervical dilatation of greater or equal to 4cm.

- A partogram should be commenced for all birthing women in established labour
- Throughout the first stage of labour, the following observations should be offered, as a minimum and recorded on the partogram in eCare.
- If, following discussion with the service user an informed choice not to accept observations is made or due to clinical events observations are not completed as recommended in this guideline, the reasoning and discussion should be documented in eCare.

Frequency of observations in the established first stage of labour (and PASSIVE 2nd stage)

<table>
<tr><th>Every 15 minutes</th><th>Every 30 minutes</th><th>Hourly</th><th>Every 3-4 hours</th><th>Every 4 hours</th></tr>
<tr><td>Continuous EFM - record baseline rate</td><td rowspan="2">Frequency and strength of contractions</td><td rowspan="2">Maternal Pulse (more frequently if needed to differentiate abnormal fetal heart rate - consider pulse oximeter)</td><td rowspan="2">Bladder care / void: the amount voided should be documented (see Bladder Care Guideline)</td><td>Blood Pressure</td></tr>
<tr><td>Intermittent Auscultation - record as single number eg 140bpm</td><td>Maternal Temperature</td></tr>
<tr><td></td><td></td><td>If in Pool - record pool temperature (aim for 35-37°c) and maternal temperature</td><td></td><td>Offer Vaginal Examination</td></tr>
</table>

The presence of certain maternal conditions, circumstances or any variation from normal findings may necessitate an increased frequency of observations. Please refer to individual care plans and guidelines specific to the maternal condition where appropriate, for example Hypertensive

Disorders of Pregnancy and discuss the recommendations for frequency of observations with the service user.

Referral to an Obstetrician should take place if:

- Ante Partum Haemorrhage or any fresh PV bleeding
- Maternal Temperature - any reading of >38°C or <36° OR if the maternal temperature is ≥37.5° on 2 consecutive occasions 1 hour apart (consider Sepsis screening Tool)
- Maternal Pulse >120bpm on 2 consecutive readings 30 minutes apart (consider Sepsis screening Tool)
- MEOWS tool triggers an alert
- Raised blood pressure with a single reading of either diastolic BP ≥110mmHg or systolic BP ≥ 160mmHg or BP ≥140/90mmHg on 2 consecutive readings taken 30 minutes apart
- Urinalysis reading of 2+ protein & single reading of BP ≥ 140/ 90mm/Hg
- Pain reported that differs from the pain normally associated with contractions
- Rupture of membranes > 24 hours before onset of established labour
- Confirmed delay in the first stage of labour
- Transverse or Oblique lie or cord presentation
- High (4/5 - 5/5 palpable) or free-floating head in a nulliparous service user
- Fetal heart rate of < 110bpm or >160bpm
- Any deceleration following a contraction
- Uncertainty about the presence of a fetal heartbeat
- Suspected Anhydramnios, Oligohydramnios or Polyhydramnios
- Concerns with Reduced fetal movements in the last 24 hours
- Meconium-stained liquor - green or black amniotic fluid or particulate

Some situations would require immediate response from the Obstetric on call team, and the Emergency Buzzer system should be used, for example:

- Maternal seizure or collapse
- Cord prolapse

Should any of the above occur in a home birth environment, discuss that referral to an obstetrician may indicate a transfer into hospital. If any of the factors above are observed but birth is imminent, assess whether birth in the current location is preferable to recommending transfer to the obstetric unit. Should the service user decide against transfer and discuss this with the co-ordinating midwife and document the discussions.

3.5.1 Meconium liquor

Management in labour

- If there is any doubt about the presentation and the service user is in a hospital setting, perform an ultrasound scan to exclude breech presentation.
- If there is any doubt about the presentation and the service user is in a home setting, discuss and recommend the options for transfer into the unit to perform a presentation scan
- Management of labour with meconium-stained liquor follows the normal guidance with recommendation of continuous fetal monitoring after review by the Obstetric Team (see Fetal Monitoring Guideline)
- If meconium-stained liquor is identified, healthcare professionals trained in advanced neonatal life support should be readily available for the birth.

- The presence of meconium and any fetal heart rate abnormality requires immediate escalation to the Obstetric Team
- Obstetric review is offered and discussion regarding any recommended change in care, helping service user to make an informed choice regarding ongoing labour plan.
- Management of labour with meconium-stained liquor with additional risk factors, e.g. pre-eclampsia or fetal growth restriction, should be discussed with the Obstetric Consultant. There should be a low threshold for offering a Caesarean birth in this situation and discussion with the service user to inform her decision.

3.6 Progress and duration of the first stage of labour

The length of the first stage of established labour varies considerably.
In nulliparous women, labours last on average 8 hours and are unlikely to last over 18 hours.
In multiparous women, second and subsequent labours last on average 5 hours and are unlikely to last over 12 hours. Delay in labour is suspected if progress is less than 2cms in 4 hours (0.5cm/hr) in all maternity service users, including a slowing of progress in multiparous service user. Refer to the 1st stage algorithm (Appendix 1) for recommended care if delay in labour is suspected.

3.7 Delay in the First Stage of Labour

If delay in the established first stage of labour is suspected, take the following into account

- Parity
- Cervical dilatation and rate of change
- Uterine contractions on palpation, strength, duration and frequency
- Station and position of presenting part
- Descent and rotation of presenting part
- Bladder care
- The maternity service user's emotional state

If delay in the established first stage is suspected, amniotomy should be considered as a first step for all maternity service users with intact membranes. This option can be discussed for the service user and procedure performed after discussion. Advise that it may shorten labour by about an hour but may increase the strength and pain of contractions.

Whether or not an amniotomy has been performed, if delay is suspected offer a further vaginal examination two hours later to establish if progress is less than 1 cm.

If delay in 1st stage is confirmed, explain the situation and offer an obstetric review,which may require transfer in a home birth setting. If agreed, transfer to obstetric led care and after face to face obstetric full clinical review have a collaborative decision about management options. This may include consideration of the use of oxytocin. All discussions, information provided, and informed decisions made should be clearly documented in the maternity records.

A full assessment by an obstetrician, including abdominal palpation and vaginal examination, should be performed with informed consent before a decision is made about oxytocin. Explain that oxytocin will bring forward the time of birth but will not influence the mode of birth or other outcomes and that contractions will become more frequent and stronger.

The use of oxytocin for augmentation of labour is always the responsibility of an Obstetrician and should never be commenced by a Midwife without the above assessment and prescription. Explain that use the use of oxytocin will require continuous fetal monitoring and IV access, which may impact on the birth experience, and change some of the previous birth plans. Epidural analgesia

can be offered prior to starting oxytocin. The maternity service user can then decide whether to continue with augmentation of labour.

Ensure that the Oxytocin is increased no more frequently than every 30 minutes in the first stage of labour until uterine contractions are 4 in10 minutes on palpation.

Recommend a vaginal examination after commencing Oxytocin, the obstetric team should confirm timing of the examination, usually 4 hours from start or 4 hours from regular contractions;

- If cervical dilatation is less than 2cm after augmentation with oxytocin, further obstetric review is required to assess the option for caesarean birth.
- If cervical dilatation has increased by 2cm or more, advise 4-hourly vaginal examinations

Fluid balance should be reviewed prior to starting oxytocin infusion, and a strict fluid balance chart should be completed whilst on oxytocin infusion.

3.7.1 Oxytocin Regimen

Add (10 units) of oxytocin to 500mls of Sodium Chloride 0.9%
Ensure IV access
Use an infusion pump to administer the solution as per infusion rate below. Maximum rate can up 96mls/hr, however discussion with the Consultant Obstetrician is needed prior to an increase above 60mls/hr.
Titrate to aim for 4 contractions every 10 minutes; or maximum 3-4 in 10 minutes where there is a uterine scar or as directed by obstetric team.

The incremental infusion rate to be followed is:

Time after starting (min)	**Oxytocin Dose** (mU/min)	**Volume infused** (mls/hour)
Start	1	3
30	2	6
60	4	12
90	8	24
120	12	36
150	16	48
180	20	60

3.7.2 Avoiding hyponatraemia in labour

Maternal hyponatraema can occur in labour and is more common in those having oxytocin infusion. Up to 25% of women with a fluid intake >2500mls (oral and IV) and positive fluid balance of > 1500mls can develop hyponatraemia.
Without adequate treatment, hyponatraemia can lead to maternal confusion, fits and can lead to a corresponding neonatal hyponatraemia with convulsions, poor feeding and potential brain injury.

Mild hyponatraemia: Sodium 130- 134
Moderate hyponatraemia: Sodium 125- 129
Severe hyponatraemia: Sodium 120- 124
Medical emergency **Sodium <119 – call medical emergency, and inform ITU**

Risk factors for hyponatraemia
-> excessive oral intake or intravenous fluids
-> oxytocin infusion (an "anti-diuretic")
-> pre-eclampsia
-> variable insulin/dextrose infusions

All maternity service users should have a fluid balance checks in labour.
- Monitor ALL fluids in/out and every 4 hours – check fluid balance
- All women should be encouraged to drink to thirst only
- If requiring IV fluids ensure fluid balance charting and include oral intake and any output– (eg urine, vomiting, consider with epidural)

Women with positive fluid balance > 1500mls require a renal profile check and ensure service user has passed urine recently or catheter is not blocked.

Should the Na level be < 130, please inform obstetric and anaesthetic team and start fluid intake restriction of 85 ml/hr. Re-check after 4-6 hours depending on fluid chart.

3.8 The Second Stage of Labour

The second stage of labour may be identified by the vertex visible at the perineum, external signs of second stage or by vaginal examination. The second stage of labour may be divided into two phases: passive and active **(Appendix 2)**.

The passive second stage begins from full dilatation of the cervix. This can be prior to, or in the absence of involuntary expulsive contractions.

The onset of active second stage is when:
- The presenting part is visible
- There are expulsive contractions with other signs of full dilatation of the cervix
- Active maternal effort following confirmation of full dilatation of the cervix in the absence of expulsive contractions

If full dilatation of the cervix has been confirmed in a service user without epidural, who does not have an urge to push, allow up to one hour (passive second stage) and carry out further assessment after 1 hour.

For maternity service users **without an epidural,** pushing should be guided by the service user's own urges with the support and encouragement of her Midwife.

- There is no evidence to support the practice of directed pushing.
- In the absence of an urge to push one hour following the diagnosis of second stage, a further assessment (including strength, duration and frequency of contractions) should take place and the information gained used to inform a plan of care.

For those **with an epidural**, pushing (active second stage) can be delayed for up to 2 hours, unless the service user has an urge to push or the head is visible. After this time, pushing should be actively encouraged.

Ongoing consideration should be given to the service user's position, hydration, coping strategies, analgesia, emotional and psychological needs throughout the second stage.

Throughout the second stage of labour the following observations, as a minimum, should be offered and recorded on the partogram and in the electronic maternal health records.

Frequency of observations in the active second stage of labour

Every 5 minutes (Intermittent Auscultation)	**Every 15 minutes (Electronic Fetal Monitoring)**	**Every 30 minutes**	**Hourly**	**Every 3-4 hours**	**Every 4 hours**
Intermittent Auscultation - record as single number eg 140bpm	Continuous EFM -record baseline rate Palpate the service user's pulse every 15 minutes to differentiate between two heartbeats	Frequency and strength of contraction	Offer Vaginal Examination Blood Pressure **If in Pool** - record pool temperature (aim for 35-37°c) Maternal Temperature	Bladder care / void: the amount voided should be documented (see Bladder Care Guideline)	Maternal Temperature

(NB In passive 2nd stage i.e. NO involuntary or voluntary pushing, observations continue as per 1st stage of labour)

3.8.1 Referral to an Obstetrician

Transfer to the Obstetric Unit or referral for an Obstetric review is appropriate for any of the reasons listed in section 3.3 and/or if delay is diagnosed in the active 2nd stage of labour (Appendix 2).

An obstetrician should offer a full assessment including abdominal and vaginal examination if there is a concern with a delay in the 2nd stage, before considering oxytocin.

3.8.2 Progress and duration of the second stage of labour

Birth would be expected to take place within 3 hours of the start of active 2nd stage for most primiparous women and within 4 hours of the diagnosis of the Second stage of labour. If the progress in labour (rotation and/or descent of the presenting part) is suggestive of a delay after an hour of second stage, offer Vaginal examination and to rupture the membranes if still intact. Diagnose a delay in the active second stage when birth is not imminent after 2 hours of pushing and explain the need to refer to the Obstetric Team.

Birth would be expected to take place within 2 hours of the start of active 2nd stage for most multiparous women. If the progress in labour (rotation and/or descent of the presenting part) is suggestive of a delay after 30 mins of second stage, offer Vaginal examination and to rupture the membranes if still intact. Diagnose a delay in the active second stage when birth is not imminent after 1 hour of pushing and explain the need to refer to the Obstetric Team.

Consideration may need to be given for transfer time if the maternity user is at home and delay in 2nd stage is suspected.

In the presence of meconium liquor, a prolonged second stage should be avoided, and an offer to expedite birth should be discussed with the service user.

3.8.3 Augmentation with Oxytocin in the second stage

Consideration should be given to the use of Oxytocin infusion with the offer of regional analgesia, for primiparous women if contractions are infrequent at the onset of the second stage. This would require full obstetric review and discussion with the service user.

<u>Continuing augmentation</u>

For those using oxytocin during the first stage of labour, it should be continued in the second stage if there are no concerns with fetal monitoring. The rate should be titrated according to contractions, with the aim of achieving 4 contractions in 10 minutes on palpation with, at least, 1 minute rest between contractions. This should also take into consideration the length, strength, regularity of contractions, as well as the frequency.

<u>Commencing augmentation:</u>

Due to the risk of uterine rupture, oxytocin should not be commenced in the second stage in multiparous women attempting VBAC.

In exceptional circumstances, a decision to augment anyone having a vaginal birth after Caesarean should only be made following a discussion between the obstetric consultant and the service user, which should be documented within the maternity records.

Prior to commencing oxytocin in second stage, this requires an obstetric review from the consultant or senior registrar and a full assessment including: -

- Maternal and fetal wellbeing
- Abdominal and vaginal examination
- Medical and obstetric history

A management plan should be clearly documented in eCare including options discussed and the informed decision made by the service user.

The following conditions are contraindications for the use of oxytocin at second stage:

- Pathological CTG
- Contractions > 5 in 10min
- Features of obstructed labour

Maternal and Fetal Monitoring

All maternity service users having oxytocin require continuous CTG monitoring. Oxytocin must be stopped if continuous monitoring cannot be performed.

The length, strength and frequency of contractions should be assessed by the midwife on palpation.

Increase the oxytocin rate every 15 minutes to achieve 4 contractions per 10 minutes, lasting at least 45 seconds with 1 minute's rest between contractions, providing the CTG remains normal.

This should be recorded on the partogram, together with the rate of oxytocin infusion.

Assessment of labour progress should occur 1-2 hr from the commencement of oxytocin depending on the initial obstetric review, rate of contractions and the most recent vaginal examination findings.

Regime for oxytocin commenced at second stage.

Setting up – as for augmentation in the 1st stage of labour

Time	Start	¼ hr	½ hr	¾ hr	1 hr	1 ¼ hr
mu/min	1	2	4	8	16	32
Ml/hr	3	6	12	24	48	96

Regime for infusion should be as highlighted above to a maximum 32mu/min (96 ml/hr) or until 4 strong contractions every 10 min with at least 1 min. relaxation interval between each contraction.

Stop oxytocin and refer to obstetrician if:

- Contractions exceed >5 in 10 minutes
- CTG becomes pathological

3.8.4 Perineal care

- Midwives should encourage all maternity service users, where possible, to birth their babies in a slow and controlled manner.
- A warm compress can be offered to support the perineum during the birth (RCM, 2018).
- The OASI2 care bundle has been implemented by the trust and the technique should be offered unless it is not possible, for example in a water birth. All maternity services users should receive oral and written information, in a format which is accessible to the individual, about OASI2 during their pregnancy.

3.8.5 Episiotomy

- Do not carry out routine episiotomy during spontaneous vaginal birth
- Informed consent must be gained prior to performing an episiotomy
- Perform an episiotomy only if there is a clinical need, such as assisted vaginal birth or suspected fetal compromise.
- Ensure adequate analgesia prior to performing an episiotomy except in acute fetal compromise.
- If an episiotomy is performed, the recommended technique is a mediolateral episiotomy originating at the vaginal fourchette usually directed to the right side at an angle of 60 degrees to the vertical axis, using the Episcissors-60.

3.8.6 Expediting birth

If the birth needs to be expedited for maternal or fetal reasons, assess both the risk to the baby and the safety of the service user.

The obstetrician will undertake a full bedside assessment which should include:

- The degree of urgency
- Clinical findings on abdominal and vaginal examination
- Choice of mode of birth (and whether to use forceps or ventouse if an assisted vaginal birth is indicated)
- Anticipated degree of difficulty, including the likelihood of success if assisted operative birth is attempted
- Location
- Any time that may be needed for transfer to obstetric led care, including from a home setting
- The need for additional analgesia or anaesthesia
- The findings from the assessment will be discussed with the service user, including any recommendations, with the provision of individualised information to enable the service user to make an informed choice.

Following a collaborative discussion with the service user, document the rationale for the recommendation that the birth needs to be expedited and the options discussed with the service user and the overall decision. In the event of a decision for birth, inform the relevant multi-disciplinary team members about the degree of urgency and record the time at which the decision to expedite the birth is made (see operative vaginal birth guideline). If the service user does not provide informed consent to expedite the birth, document in the maternity records and escalate to the MDT/ lead on call as appropriate.

3.9 Neonatal Resuscitation

In the first minutes after birth, evaluate the condition of the baby – using Apgar scoring, specifically respiration, heart rate and tone – to determine whether resuscitation is needed according to nationally accredited guidelines on neonatal resuscitation.

Delayed cord clamping of at least one minute should be offered unless there is the immediate need for resuscitation.

Within a home setting a time critical response should be initiated and transfer of newborn to the hospital.

Record the Apgar score routinely at 1, 5 and 10 minutes for all births.

Babies that have required advanced neonatal resuscitation at birth should receive urgent review by a paediatrician and be transferred to the hospital if in the home setting.

3.9.1 Birth in the presence of meconium liquor

In the presence of meconium there should be trained neonatal resuscitator at the birth.

If there has been meconium and the baby does not have normal respiration, heart rate and tone, follow the Neonatal Resuscitation guideline.

If there has been significant meconium present and the baby is healthy, closely observe the baby within a unit with immediate access to a neonatologist. Perform these observations at 1 and 2 hours of age and then 2-hourly until 12 hours of age (NICE, 2014). This may require transfer into the hospital from a home setting.

If there has been non-significant meconium, observe the baby at 1 and 2 hours of age in all birth settings (NICE, 2014).

3.10 The Third Stage of Labour

The third stage of labour is the time from the birth of the baby until the expulsion of the placenta and membranes.

Ensure that any care or interventions are sensitive to the time that the mother is getting to know her baby and where possible minimise separation or disruption of the parent and baby.

Maternity services users should have been advised antenatally what to expect with each package of care for managing the third stage of labour including the benefits and risks.

NICE recommend **active management** of the third stage of labour, which is considered to reduce the risk of maternal haemorrhage and shorten the third stage of labour. Discuss the options with the maternity services user and record their choice in the maternity health records, ensuring they are aware of clinical reasons which may indicate a change in management.

Active management is a package of care that includes all the following:

- Routine use of uterotonic drugs
- Delayed clamping and cutting of the cord, up to 5 minutes unless separation is required earlier – blood samples can be taken from an unclamped cord.
- Controlled cord traction after signs of separation of the placenta.
- Maternal effort should not be used during active management.

Explain that active management:

- Shortens the third stage compared with physiological management
- Is associated with nausea and vomiting in about 10% of patients
- Is associated with an approximate risk of 13 in 1,000 of a haemorrhage of more than 1 litre
- Is associated with an approximate risk of 14 in 1,000 of a blood transfusion.

Syntocinon 10 units by IM injection is the recommended uterotonic in the absence of risk factors for postpartum haemorrhage (PPH). This should be given at birth and delayed cord clamping should occur for at least a minute.

Where risk factors exist or arise (see Postpartum Haemorrhage Guideline), Syntometrine 1ml IM should be given at birth unless contraindicated e.g. Hypertension or cardiac disease. In this case oxytocin 5 IU IV at birth and oxytocin 5 IU IV at 5 minutes, according to the birth plan on eCare. Delayed cord clamping can still be offered.

Maternity services users at low risk of PPH who request **physiological (or expectant) management** should be supported in their choice. Physiological management includes:

- No routine use of uterotonic drugs
- No clamping of the cord until pulsation has ceased
- Delivery of the placenta by maternal effort only

Explain to the service user that physiological management:

- Is associated with nausea and vomiting in about 50 in 1,000 patients
- Is associated with an approximate risk of 29 in 1,000 of a haemorrhage of more than 1 litre
- Is associated with an approximate risk of 40 in 1,000 of a blood transfusion.

If maternity services users at high risk of PPH request physiological management of third stage in the antenatal period refer to Birth Outside of Guidance SOP for management. If this request is made during labour, refer to senior midwife, discuss and clearly document the rationale for recommendations, risks and benefits of both options using the BRAIN acronym, as per Maternity Health records and recordkeeping guideline.
The service users informed choice will be documented and respected with further information being provided during the evolving clinical situation.

Changing from physiological to active management is indicated in the presence of:

- Haemorrhage
- At the request of the maternity services user
- Retained placenta (Appendix 3)

Controlled cord traction or palpating the uterus should only be carried out after administration of oxytocin as part of active management.

Record the timing of cord clamping in the records.

Following the birth of the placenta and membranes, a full vaginal and rectal examination should be offered noting any abnormalities.

3.10.1 Prolonged third stage

Diagnose a prolonged third stage of labour if the placenta is not delivered within 30 minutes of birth with active management and 60 minutes with physiological management.

Initial assessment when a diagnosis of prolonged third stage has been made, explain the following options to aid placental delivery, and undertake with consent.

- Empty the bladder

- Breast feeding/nipple stimulation to be encouraged
- Encourage upright position
- Offer to convert Physiological management to active management
- Transfer of care from Midwifery to Obstetric Led
- Aromatherapy can be but should never prevent active management in the event of haemorrhage
- Full set of observations

Management of prolonged third stage, explain the following options to aid placental delivery, and undertake with consent.

- If the service user is not in obstetric unit, arrange immediate transfer
- Notify labour ward co-ordinator, Obstetric registrar and Anaesthetist
- Follow Appendix 3 algorithm
- Remain with the maternity services user as there is potential for haemorrhage
- Palpate uterus and observe lochia for evidence of haemorrhage
- Do not proceed with manual removal/uterine exploration without appropriate analgesia.
- Consent for all interventions to be discussed using the BRAIN acronym
- All blood loss should be measured contemporaneously ensuring full oversight of the clinical situation. Refer to Obstetric Haemorrhage guideline if necessary.

3.10.2 Cord gases

The main indications for cord gases are:

- Breech vaginal birth
- There are concerns about condition of the neonate(s) at birth
- Any operative vaginal birth
- Any emergency Caesarean section
- Baby is preterm (<37 weeks).
  Consider if the CTG was suggestive of hypoxia

Paired cord gases can be obtained during delayed cord clamping without clamping the cord.

3.10.3 Observations

During the third stage observations of the service user's wellbeing include:

- Her general physical condition, as shown by her colour, demeanour and her own report of how she feels
- Vaginal blood loss
- Vital signs as appropriate

Do not leave the service user unattended until the third stage has been completed.

In the presence of haemorrhage (see Obstetric Haemorrhage Guideline), retained placenta or maternal collapse frequent observations to assess the need for resuscitation should be carried out according to the recommendations, and recorded on a MEOWS chart, including:

- Pulse
- Blood pressure
- Respirations
- Saturations
- Vaginal loss
- Uterine tone

3.10.4 Assessment of perineal trauma

All maternity service users should ~~have~~ be informed of the rationale for a full vaginal examination following birth both antenatally and re-discussed during birth. If informed consent is gained, perform the examination gently, agreeing with the service user before the examination, the mechanism for requesting the examination to stop. Refer to the 'Perineal Trauma and repair guideline'.

3.10.5 Referral to an Obstetrician

This should take place in the case of:

- Post-Partum Haemorrhage (see Obstetric Haemorrhage Guideline)
- 3rd or 4th degree tear or other complicated tears that require suturing
- Retained placenta (see Appendix 3 – algorithm for retained placenta),

3.11 Care of the mother and newborn after birth

3.11.1 Initial assessment of mother

Carry out the following observations after birth

- Record temperature, pulse, blood pressure and saturations
- Uterine contraction and lochia
- Early assessment of the emotional and psychological condition in response to labour and birth
- Successful voiding of bladder within 6 hours of birth

If there are any concerns with the above assessment refer for Obstetric review. Consider that this may require transfer from a home setting.

3.11.2 Initial assessment of the newborn

- Encourage mother to have skin to skin contact with the newborn(s) for as long as the parent wishes, at least one hour or until after the first feed.
- Maintain thermoregulation
- Weigh the baby, record head circumference and initial top to toe newborn assessment
- Offer and administer Vitamin K depending on parental choice.
- Encourage initiation of infant feeding, respecting mother's choice.
- Perform observations as required where there are indications for neonatal observations, e.g. meconium liquor.
- If there are any concerns with the newborn, refer to paediatrician.

Avoid separation of mother and their newborn within the first hour of birth for routine assessments unless necessary for immediate care.

4.0 Statement of evidence/references

National Institute for Health and Care Excellence (NICE). (2014). *Intrapartum care for healthy women and babies*. NICE

Royal college of Midwives (RCM). (2018). *Midwifery care in labour guidance for all women in all settings.* London: RCM

NICE (2014) Intrapartum care. *Care of healthy women and their babies during childbirth (CG190)*. London.

Grant P, Ayuk J et al. The diagnosis and management of inpatient hyponatraemia and SIADH, Eur J Clin Invest 2015;45(8):888-894

Hyponatraemia Guideline Development Group, Clinical practice guideline on diagnosis and treatment of hyponatraemia, Eur J Endocrinol March 1, 2014 170 G1-G47

Moen V, Brudin L, Rundgren M, Irestedt L. Hyponatremia complicating labour - Rare or unrecognised? A prospective observational study. BJOG An Int J Obstet Gynaecol 2009;116(4):552–61. Doi: 10.1111/j.1471- 0528.2008.02063.x.

Epidural and Position Trial Collaborative Group. Upright versus lying down position in second stage of labour in nulliparous women with low dose epidural: BUMPES randomised controlled trial. BMJ. 2017 Oct 18;359:j4471. doi: 10.1136/bmj.j4471. PMID: 29046273; PMCID: PMC5646262.

5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made
1 NEW			
2.0			
2.1	Oct 2023	Natalie Lucas	See below

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Anaesthetic consultants	Anaesthetics	27/02/2019		Nil	Yes
Consultant O&G	Obstetrics	27/02/2019		Nil	Yes
Junior doctors in O&G	Obstetrics	27/02/2019		Nil	Yes
Midwifery staff	Midwifery	27/02/2019		See individual staff	Partially
Kate Ewing	Midwife	27/02/2019	15/03/2019	Yes	Partially

Laura Jewell	Midwife	27/02/2019	15/03/2019	Yes	Yes

Julie Cooper	Midwife	27/02/2019	17/03/2019	Yes	Yes
Lucy Bailey	MVP Parent Representative / NCT Practitioner	02/2020		Comments and corrections regarding grammar and syntax	
				Comment querying accuracy of epidural effect on duration of labour.	
				Comment asking to include benefits and risks of augmentation with oxytocin in guidance.	
				comment requesting clarification of term periods? section 3.2.1	
Roxanne Clarke	Service User	03/2020		comment requesting clarification of term periods? section 3.2.1	
				Comment requesting inclusion of information that vaginal examination can be painful.	
				comment requesting inclusion of bladder care in labour as per flowchart in the main guideline text	
				Comment requesting clarification of what support would be offered to parents for augmentation with oxytocin.	
Lindsey Newman	Service User	03/2020		Comments highlighting layout improvement.	
Rachael Bickley	Co-Chair Maternity: MK MVP	03/2020		Comments throughout supporting inclusive language acknowledging gender fluidity	
				Comments throughout asking for consideration of using "Straightforward and Complex" instead of "low and high risk"	

				Comments requesting clarification of the term "delay" in Executive Summary	
				Comments requesting dissemination of guidelines to Maternity Webpages for transparency and access for parents.	
				Comment requesting birthing women/people are able to decline advice to return home if needing midwifery support in early labour	
				Comment to include consideration or inclusion of de-escalation pathways when concerns have been mitigated or complications resolved.	
				Comments throughout requesting reference to NICE guidances to N197 and N190 and recently reviewed MKUH patient information about pain relief in labour. Request check with recently reviewed PIL for consistency.	

				Request to consider statement regarding respecting wishes of physiological 3rd stage for birthing women/people experiencing straightforward birth, but excluding provisions for this with parents experiencing complex birth.	
Melissa Davis	Midwifery	12.05.2022		Comments throughout to organise wording to support inclusivity and the application of informed choice and decision making to all aspects of care, with	
				the service user at the center of the provision of care. Update to incorporate NHS Digital equality guidance for removal of gender based pro- nouns. Statement added to identify the communication needs of service users to ensure equality of access. Aspects of confusion identified for review and re-word. References requested for certain elements within guidance. Removal of conflicting information not aligned to other	

				guidance or care pathways.	
Natalie Lucas	Midwifery	02/10/2023		Changed ''woman'' to ''service user''. Updated telephone triage/ face to face triage occurs in maternity triage department Re numbered appendix/ removal of call sheet appendix. Approved as chairmans action Oct 2023 Women's Health Guideline Review Group	

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board

Women in established labour have one-to-one care and support from an assigned midwife.	Notes review	L W Matron	2 years	
Women have skin-to-skin contact with their babies after the birth.	Notes review	L W Matron	2 years	

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Women's Health	Department	Maternity
Person completing the EqIA	Anja Johansen-Bibby	Contact No.	
Others involved:		Date of assessment:	Jun 2022
Existing policy	Yes	New policy	No

Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	Midwives, Obstetricians, Maternity Care Assistants

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
Via email to obstetric anesthetics, consultants, junior doctors and midwives. Also discussed at the Guideline Review Group meeting.
How are the changes/amendments to the policies/services communicated?
Via email and at CIG meeting
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed
Review date of EqIA	Jun 2025		

Appendix 1: First Stage of Labour Algorithm

Consider also:
1. Descent and rotation of the head
2. Changes in strength, duration and frequency of contractions

Established 1st stage of Labour

Offer VE no more than 4 hourly, unless clinically indicated

<2cms in 4 hours (or slowing progress in multiparous)

No

Yes

Suspect delay: Take actions to encourage progress and VE in 2 hours

No

Progress < 1 cm

Yes

Continue routine care

Diagnose Delay: Refer to Obstetrician and commence EFM

No

Membranes Ruptured?

Yes

Advise VE and ARM in 2 hours

Progress < 1cm?

No

Yes

Consider Oxytocin. All women will require a full Obstetric review, Mulitiparous will need senior obstetric review including abdominal palpation and VE. VE 4 hours after starting Syntocinon.

No

Progress < 2 cms in 4 hours

Yes

Consider C/S

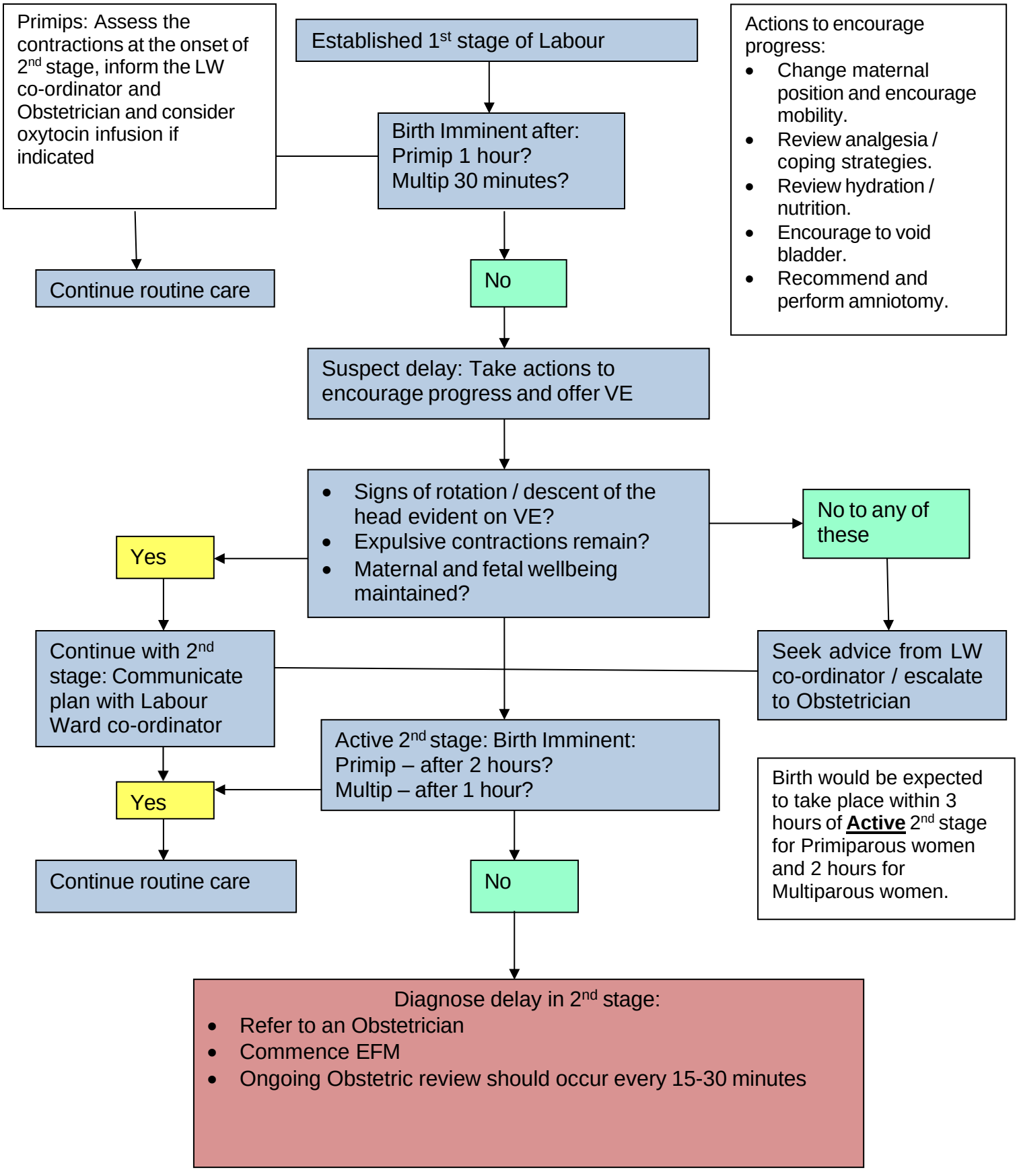
Actions to encourage progress – Consider:
- Change position and encourage mobility
- Review analgesia / coping strategies
- Review hydration / nutrition
- Encourage to void bladder
- Recommend and perform amniotomy

Amniotomy
Explain procedure and that it:
- Will shorten labour by approx. 1 hour
- May make contractions more painful.

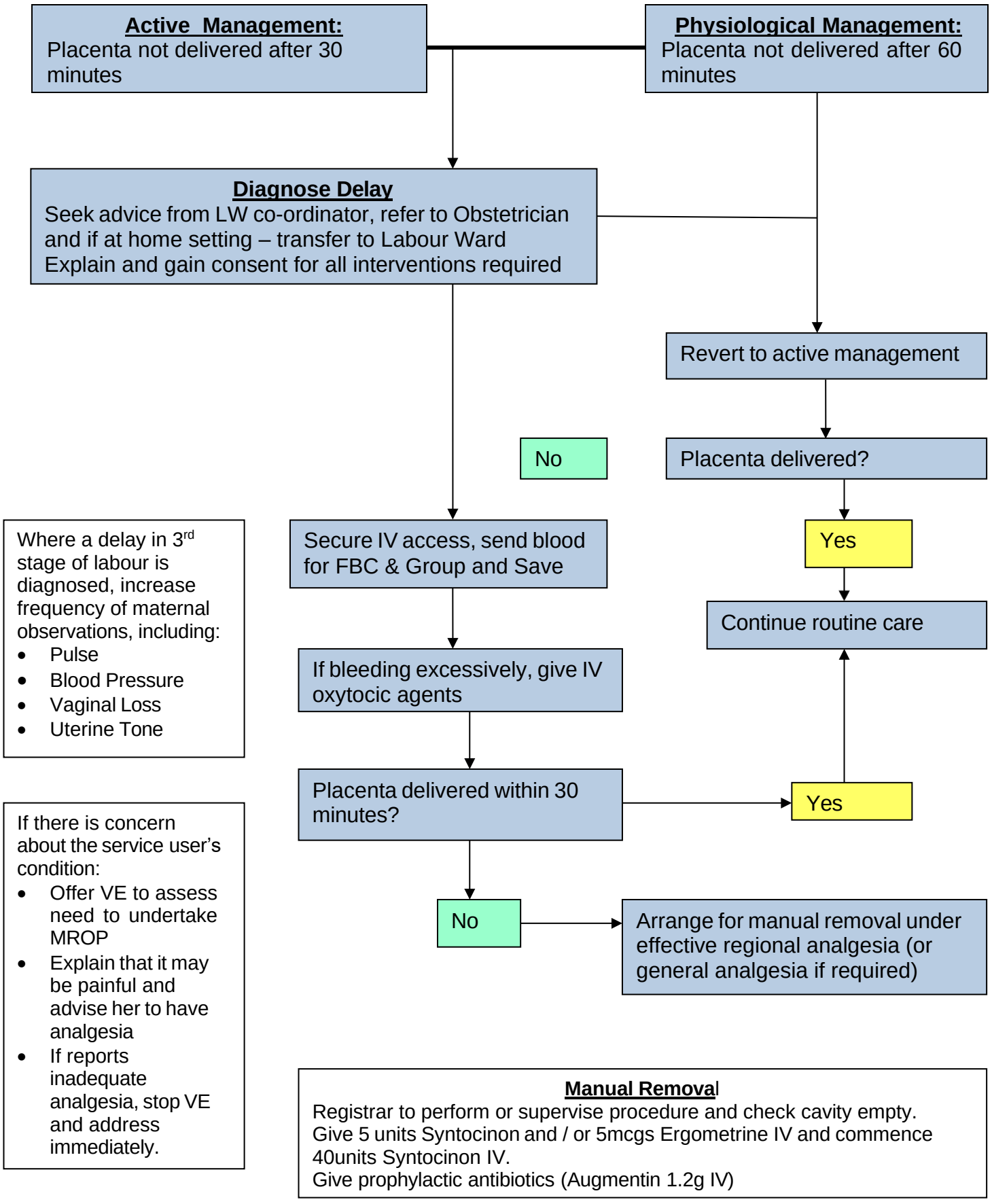
ARM alone is not an indication for EFM

Oxytocin refers to guideline for regime. Explain that Syntocinon will shorten the labour but will not influence the mode of birth.

Appendix 2: 2nd Stage of Labour Algorithm



Appendix 3: Retained Placenta Algorithm



Appendix 4: Staying comfortable in Labour Information leaflet

Staying comfortable during labour