Reference Number: TBA unless document for review Version Number: 1	Date of Next Review: Nov 2025 :

High Risk Intrapartum Care of women with pre-existing medical conditions

Introduction and Aim

This guideline is to aid clinical practice in the intrapartum management of women who have a medical condition or complication in their current pregnancy or previous pregnancy. Its aim is to improve patient experience and outcomes for the woman and their babies.

Objectives

- Supporting women in making decisions about their intrapartum care.
- Guidance to facilitate standards of care for the intrapartum care of high-risk women.
- Risk assess women with pre-existing medical conditions
- Individualised care plans.

Scope

This guideline applies to pregnant women, their families and career, Obstetricians, Midwives, anaesthetists and all other healthcare professionals caring for high risk women in labour.

Equality Health Impact Assessment	An Equality Health Impact Assessment (EHIA) has not been completed.
Documents to read alongside this Procedure	• Low risk Intrapartum Care • Intrapartum fetal monitoring • Induction of labour • Management of pregnancy of women with diabetes • NICE 2019 Intrapartum Care for Women with existing Medical Conditions • OASI Care Bundle 2018 • GAIN 2017 – Guideline for prevention, diagnosis and management of Hyponatraemia in labour and immediate post-partum period
Approved by	Maternity Professional Forum

Accountable Executive or Clinical Board Director	Ruth Walker, Executive Nurse Director
Author(s)	Dr Claire Elizabeth Hill, ST6 Dr Summia Zaher, Consultant Obstetrician
Disclaimer If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.	

Summary of reviews/amendments			
Version Number	Date of Review Approved	Date Published	Summary of Amendments
1			New Document

1 Table of Contents

Contents

2 Information for all high-risk women

This guideline recognises The Royal College of Obstetrics and Gynaecology and The Royal College of Midwives' Statement of Inclusivity,

> *"We recognise maternity and gynaecological services will be accessed by women, gender diverse individuals and people whose gender identity does not align with the sex they were assigned at birth. Therefore, we believe delivery of care must at all times be appropriate, inclusive and sensitive to the needs of everyone." (RCOG, 2022)*

2.1 Offer all women with pre-existing medical conditions information about their intrapartum care. Including:

- How their medical condition may affect their care.
- How labour and birth may affect their medical condition.
- How their medical condition and its management may affect the baby.

Where possible this should be done in a pre-conception counselling appointment or as early as possible in her pregnancy. If already pregnant consider a double appointment to discuss this in detail.

- If a woman has had no antenatal care give her information about intrapartum care at her first contact with healthcare services during pregnancy.

The Multidisciplinary Team.

- MDT must have a named lead Consultant Obstetrician.
- The patient and their opinions should be centre of the MDT.
- The woman and her birth partner should be reviewed as early as possible throughout pregnancy and on admission for birth.
- The entire MDT require updating if her medical condition changes during pregnancy.

The MDT may include:

- Named lead Obstetrician
- Community Midwife
- Specialist Midwife/Nurse
- Obstetric Anaesthetist
- Obstetric Physician or clinician with expertise in caring for pregnant women with the medical condition
- Specialty Surgeon
- Critical Care Specialist
- Neonatologist
- Patient's General Practitioner
- Allied Health Professionals.

3 Telephone Assessment

Women are encouraged to make telephone contact with the Consultant Led Unit when labour commences and a full history must be taken, and an intrapartum risk assessment form should be completed.

The content of any telephone conversation with a woman in labour should be documented.

4.1 Risk Assessment

All women need to be risk assessed on admission using a risk assessment form or Part 2 of the All Wales Care Pathway for Normal Labour which should be filed in the maternal case

notes. Women who are risk assessed as being at "low risk" should use Part 3 of the All Wales Care Pathway for Normal Labour.

3.2 Initial Assessment

The initial assessment of a woman in labour by a midwife should include:

- Listening to her story, considering her emotional psychological needs, and reviewing her clinical record
- Physical observation – temperature, pulse, blood pressure, urinalysis
- Length, strength and frequency of contractions
- Abdominal palpation – fundal height, lie, presentation, position and station
- Vaginal loss – show, liquor, blood
- Fetal wellbeing should be assessed
- Assessment of the woman's pain, including her wishes for coping with labour along with the range of options for pain relief
- If the woman appears to be in established labour, a vaginal examination should be offered
- Unless It is clear that a woman is not in labour, a vaginal examination should be offered prior to a decision being taken to suggest the woman return home
- Check Green Intrapartum Management Sheet or pink form if under Fetal Medicine Unit Care and Euro king for specific Birth Plan information
- Admission Bundle to be completed for all CLC women.

4 Latent phase of labour

4.1 Characteristics of latent phase of labour:

NICE (2017) define the latent phase as, *"a period of time, not necessarily continuous, when:*

- *There are painful contractions and*
- *There is some cervical change, including cervical effacement and dilation up to 4 cms"*

If labour is considered to be in the latent phase, if appropriate, women should be advised to stay at home as this is considered the most appropriate environment and coping methods discussed. Support and reassurance from a contactable midwife is vital and women should be encouraged to ring back for advice as and when necessary, with some exceptions e.g. HIV, previous precipitate labour, previous c/s, unsuitable lie.

Face to face assessment should be encouraged if:

- the midwife has any concerns
- patient has called more than 3 times
- if the patient wishes review.

There is no standard definition for a prolonged latent phase or consensus regarding normal duration of latent phase. Research indicates this may normally range from 8 to 20hrs. (Angeby K. et al Prevalence of prolonged latent phase and labour outcomes: review of birth records in a Swedish population. J Midwifery Women's Health. 2018:63(1):33-44).

4.2 Ongoing maternal and fetal assessment if remains in hospital.

-A woman should be provided care in a non-invasive environment with access to food and drink
-Maternal and fetal assessment should be carried out every 60 minutes. This should include talking to the woman about how she is coping and monitoring the frequency and length of the contractions. If asleep (unless pethidine induced) this can be left to allow the woman to rest. The fetal heart should be recorded using a Pinard or hand help doppler and fetal movement s monitored.
-A urinalysis should be conducted on every void to monitor for ketosis.
-A repeat vaginal examination can be offered if it appears that labour is establishing. It is not unusual for women to be in the latent phase of labour for 2-3 days. If a review is necessary this should be by a senior obstetrician or senior midwife. Following a discussion a plan of care can be developed with the woman.

4.3 Analgesia for the latent phase of labour.

The following methods of analgesia should be regarded as an 'analgesia ladder'. For many women, support, information and self help skills will be sufficient to enable them to cope with the pain of early labour without the need for pharmacological intervention. All women should be offered non-pharmacological methods of pain relief in the first instance (e.g. TENS machine, bath) and this should be documented clearly in the notes

4.3.1 Paracetamol

500mgs x 2 can be offered 4-6 hourly (maximum dose 4gms in 24 hours). This SHOULD NOT be given within 4 hours of co-codamol.

4.3.2 Co-codamol (Not on the MLU)

8/500mgs x 2 can be offered 4-6 hourly and must be prescribed by a doctor (maximum dose 8 tablets in 24 hours). This SHOULD NOT be given within 4 hours of paracetamol.

There is no requirement for NAS observations with codeine use during induction of labour if short term use of up to 7 days.

4.3.3 Pethidine

Pethidine should be given infrequently during induced labour and only following support, advice and information. An anti-emetic should be prescribed and administered simultaneously to pethidine. Pethidine must be prescribed by a doctor for use during induced labour.

Consideration should be given to the woman's weight and pethidine dose may be decided according to the table below. Maximum dose is 200mg in 24 hours.

Weight	**Pethidine dose**
Up to 50kg	50mg
50-75kg	50/ 75mg
75-100kg	75/ 100mg
>100kg	Cap at 100mg

Fetal wellbeing should be assessed with CTG monitoring prior to administration of pethidine. A full holistic assessment should be performed hourly thereafter even if a woman is sleeping. This should include but is not limited to IIA and assessment of uterine activity and should continue until uterine activity stops or falls below contraction rate of 2:10.

The midwife should remain astute to progress of labour prior to and after administration of pethidine. Vaginal examination should be considered prior to administration of pethidine to rule out established labour.

Maternal observations should be performed prior to administration of pethidine and 30 minutes post pethidine. This should be continued 2 hourly as per algorithm for intramuscular opioids. This should include HR, BP, RR, sedation and pain scores.

If there are any concerns regarding sedation of woman, seek urgent medical attention. Administration of naloxone may be necessary (refer to algorithm).

4.3.4 Entonox

Entonox should not be routinely offered as analgesia during latent phase of labour.
It may be used to help women who struggle with vaginal examinations.
Entonox can only be given to women as analgesia during latent phase of labour where 1-2-1 care can be provided.

If 1-2-1 care cannot be provided on induction ward but entonox is required, transfer to Delivery Suite must take place.

Fetal wellbeing should be assessed with CTG monitoring prior to administration of entonox with hourly IIA thereafter.

No specific maternal observations are required but regular wellbeing assessments should be performed at least hourly including assessment of uterine activity, sedation and pain scores. Vaginal examination should also be considered prior to administration of entonox to rule out established labour.

Curtains should be left open for women experiencing regular uterine activity and requiring pethidine or entonox. If women decline, please document in maternal notes

4.3.5 Epidural anaesthesia

May be offered rarely and only following senior obstetric and anaesthetic involvement, usually combined with a decision to induce / augment labour.

There is high level evidence that intrathecal or epidural analgesia administered during the early first stage of labour does not affect the progress of labour, mode of birth or immediate neonatal condition compared to administration later in labour.

Women in labour who desire regional analgesia should not be denied it, including women in severe pain in the latent first stage of labour. (NICE 2007)

Also see - New Labour Epidural Guidelines V2.pdf

5 Active Labour

- Regular contractions getting stronger
- Frequency of around 1:5
- Walking makes them stronger

5.1.1 Vaginal Examinations

Vaginal examinations can estimate the dilation of the cervix, confirm the presenting part, estimate the level of the presenting part, diagnose the position of the baby and determine whether the membranes are intact.

Vaginal examinations should be undertaken only when there is doubt about the clinical findings/ symptoms/ situation and when the information gathered is necessary or likely to be of use in informing the next decision.

Sometimes vaginal examination is necessary and should be done as sensitively as possible and with consent.

Consider the BRAINs acronym for decision making regarding vaginal examination:
Benefit – what are the benefits of the vaginal examination?
Risks – What is the risk of a vaginal examination?
Alternatives – What other approach might be taken?
Intuition – what does your clinical assessment and insight of the situation suggest?

Nothing – What would happen if I do nothing?

References:

1. Hobbs L (1998). "Assessing cervical dilation without VE‟s, watching the purple line," The practising Midwife, 1, 11, 34-35.

2. RCOG (1997). Intimate Examinations, report of a working party. The Royal College of Obstetricians and Gynaecologists, RCOG Press, September 1997

5.2 Abdominal Palpation

- It is recommended that progress in established labour is always assessed by abdominal palpation prior to vaginal examination.
- Findings from abdominal palpation should be documented on the partogram.

5.3 Admission Bundle: -

- Full set of Observations (Heart rate; respiration rate; blood pressure; level of consciousness; oxygen saturation; temperature) recorded on MEOWS chart.
- Booking BMI calculation recorded
- Reweigh on admission
- Recorded DVT risk assessment
- Plan for frequency of observations
- Communication of this with the clinical team using SBAR.
- Complete first part of Obs CYMRU paperwork
- Consider Sepsis risk proforma

6.4 Bladder care

- Women should be encouraged to void urine 2 hourly in labour.
- If the bladder is palpable abdominally, or urine is not voided for 4 hours, then the bladder should be catheterised.
- Test each urine sample for ketones and protein. The amount voided should be recorded on the partogram. A urine output of < 100ml in any 4 hours should be considered abnormal, consider taking U&Es and inform medical staff.

- Also see- Bladder Care in Labour and the Postpartum Period.pdf

5.4 Analgesia

- Appropriate and timely pain relief should be made available to all women, who will have been given information antenatally on the choices available to them.
- Mobility and the use of non-pharmacological methods of pain relief during labour should be encouraged wherever possible
- Any patient who has been seen in the Anaesthetics Antenatal clinic should have a yellow sticker on the front of their notes and will have a documented plan in the notes and is also available on Welsh Clinical Portal.

6 Assessing progress in the first stage of labour

Women in established labour should be offered a vaginal examination 4 hourly to assess progress.

6.1 Delay in the established first stage of labour

Progress in labour is deemed to be delayed when:

- Cervical dilatation of less than 2cm in 4hours (First labours).
- Cervical dilatation of less than 2cm in 4hours or a slowing down in the progress of labour (Second or subsequent labours).
- Lack of descent and rotation of the fetal head
- Reduction in the strength, duration and frequency of uterine contractions.

6.2 Rupturing of membranes.

- Amniotomy (ARM) should be reserved for women where intervention is required during their labour.
- The midwife's role in explaining risks and benefits of any intervention is important.
- Women should be told that amniotomy will shorten labour by about 1 hour, and may make contractions stronger and more painful. (NICE 2017).
- Discussion about amniotomy should not take place during a vaginal examination.
- ARM should be reserved for slow progress in labour, to visualise the colour of liquor in cases of suspected fetal compromise or to apply a FSE.
- Whether or not a woman has agreed to an amniotomy, all women with suspected delay in the established first stage of labour should be advised to have a vaginal examination 2 hours later, and if progress is less than 1 cm a diagnosis of delay is made.

6.3 Fetal heart monitoring.

Fetal Surveillance Bundle July 2020revised.pdf

7.4 Use of Oxytocin when delay of 1st stage diagnosed

IOL guideline link ***** when done

- ***Augmentation with Oxytocin is uncommon in a parous woman and should only be advised after review and examination by an***

U+E's blood sample should be taken before commencing Oxytocin infusion as per Hyponatraemia Guideline (p.16 or Hyponatraemia Guideline.pdf

- All women with delay in the established first stage of labour should be offered support and effective pain relief. Women should be offered epidural analgesia before oxytocin is started.

- Where oxytocin is used, the time between increments of the dose should be no more frequent than every 30 minutes. Oxytocin should be increased until there are 4 – 5 contractions in 10 minutes.

- Following the commencement of oxytocin for labour augmentation:

Women should be advised to have a vaginal examination 4 hours after the onset of adequate (4-5 in 10 minutes) contractions;

- If there is less than 2 cm progress after 4 hours of oxytocin further obstetric review is required to consider caesarean section. If there is 2cm or more progress, vaginal examination should be advised 4 hourly. NICE (2017) state there should be no difference in management of this for nulliparous or multiparous women

If woman transferred to theatre for caesarean section discontinue oxytocin infusion and cap the venflon. Women transferred to theatre for a trial should not have the giving set removed from the infusion pump

7 Management of second stage of labour

7.1 Passive second stage of labour:

- The findings of full dilatation of the cervix prior to or in the absence of involuntary expulsive contractions

- If full dilatation of the cervix has been diagnosed in a woman without epidural analgesia, but she does not get urge to push, further assessment should take place after 1 hour

7.2 Onset of active second stage of labour

- Expulsive contractions with a finding of full dilatation of the cervix or the 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

7.3 Duration of second stage of labour

7.3.1 Nulliparous women:

- Birth is expected within 3 hours of starting active second stage.
- **Suspect** delay in the second stage after 1hr if no change in decent or rotation of presenting part at 60min review. Offer amniotomy if membranes intact (NICE 2014).
- **Diagnose** delay in the second stage if active second stage lasted longer than 2hrs and birth not imminent.
- Women with diagnosed delay in the 2nd stage should be reviewed by an Obstetrician ST3 or above after 120mins of active pushing unless birth is imminent
- Total duration of the second stage should not be longer than 4 hours.

7.3.2 Parous women:

- Birth is expected within 2hrs of the start of the active 2nd stage.
- **Suspect** delay in the second stage after 30mins if no change in decent or rotation of presenting part. Offer Amniotomy if membranes intact (NICE 2014)
- **Diagnose** delay in the second stage if active second stage lasts more than 1hr and birth is not imminent.
- Review by Obstetrician ST3 or above on the CLU promptly after 60mins active pushing for ongoing management unless birth is imminent.
- Birth would be expected to take place within 2 hours of the start of the active second stage in most women.

7.4 Observations during second stage of labour:

All observations should be documented on MEOWs chart.
Hourly blood pressure and pulse
Continued 4 hourly temperature

- Vaginal examination offered hourly in the active stage or in the response to the woman's wishes (after abdominal palpation and assessment of vaginal loss), taking into account fetal position and station. These factors will assist in deciding the timing of further vaginal examination and the need for obstetric review.
- The woman should be kept informed regarding the progress and vaginal examination findings

Half-hourly documentation of the frequency of contractions
Frequency of emptying the bladder
If has regional analgesia, bladder should be emptied 4 hourly
Ongoing consideration of the woman's emotional and psychological needs.

- More frequent observations will be required on women on CLU with any high risk conditions such as Pre-Eclampsia, cardiac problems.

- Assessment of progress should also include:
  - Continuous CTG and hourly fresh eyes
  - If on AWLP – please refer to Low risk intrapartum care guideline. All Wales Midwifery Led Care guideline. 2022.pdf
- Ongoing consideration should be given to the woman's position, hydration, coping strategies and pain relief throughout the second stage

8 Management of the third stage of labour

The third stage of labour is the time from birth to delivery of the placenta and membranes.

8.1 Risk assessment

Risk assessment should be carried out and documented regarding whether a woman is at high or low risk of postpartum haemorrhage, by completing the first section of the Obs Cymru paperwork. Recommend active 3rd stage of labour but also respect the woman's wishes for physiological management.

Women should be informed that active management of the third stage reduces the risk of maternal haemorrhage and shortens the third stage.

8.2 Active third stage of labour

- 1st line prophylactic uterotonic should be informed by the Obs Cymru risk assessment.
-
- Wait 60secs before clamping and cutting the cord – unless fetal/maternal indication to clamp and cut earlier than 60secs.

- Controlled cord traction for delivery of placenta.

8.3 Physiological third stage of labour

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

Physiological management can be changed to active management due to the following:

- Haemorrhage
- Woman's request
- Failure to deliver the placenta within 60mins.

8.4 Delay in the third stage of labour

Diagnosed as prolonged if not completed within 30mins of birth of the baby with active management and 60mins with physiological management.

Once delay has been diagnosed, inform Obstetrics team ST3 or above for review and ongoing management plan. Consider emptying the bladder.

8.5 Documentation following delivery of the placenta and membranes

On completion of the third stage of labour the midwife will complete the birth records and electronic maternity information system. A count of the instruments, swabs and needles used during the birth need to be clearly documented and is the responsibility of the medical staff performing the delivery or suturing to account for all items.

9 Eating and drinking in Labour

- Low risk women should be eating and drinking as they wish during labour as there is no evidence of harm to them or their babies.
    - Patients at higher risk of operative intervention may be at higher risk of harm, especially if they require general anaesthesia.
    - This guideline aims to offer a definition of high-risk patients and outline acceptable oral intake during labour for both low-risk and high-risk patients.

Risk assessment:

- The risk of eating and drinking in labour can change throughout labour and should be continuously assessed by midwives, obstetricians, and anaesthetists.

- Assessment of risk of oral intake in labour should be documented in the patient's notes.
- The risk of requiring an operative intervention and the likelihood of needing a general anaesthetic should be communicated between the members of the MDT.
- Women who may be at higher risk of operative intervention, therefore general anaesthesia (the list is not exhaustive):
  - Obesity (BMI > 40 kg/m^2)
  - Multiple pregnancy
  - Severe preeclampsia
  - Recurrent antepartum haemorrhage or bleeding in labour
  - Unsatisfactory progress of labour
  - Obstetric reasons for anticipating the need of operative birth
  - Non-reassuring CTG
  - Patients having remifentanil PCA
  - Patients with an unsatisfactory epidural analgesia or one requiring anaesthetic review
  - Patients with contraindications to regional anaesthesia
- Low-risk patients with a good working epidural should eat and drink as they wish during labour.
- Ultrasound assessment of gastric volume should be performed if there is a suitably trained member of the team and time allows.

Type of food and drinks recommended in labour:

- There is no robust evidence of the safest type or quantity of food and drinks during labour. We recommend patients avoid large volumes of both food and drinks. Light diet with low fat content has less potential to reduce gastric emptying in the pregnant and possibly in labourers. Examples of acceptable food and drink to be consumed during labour include (not exhaustive list):
  - Non-carbonated drinks
  - Yoghurt
  - Toast
  - Fruit

Reducing gastric acidity:

- High-risk women should be prescribed a proton pump inhibitor (PPI), such as omeprazole to reduce the risk of harm in case of aspiration of gastric contents. Standard prescription policy should be followed (omeprazole 20mg PO BD) for the duration of labour.

Audit:

- This guideline should be subject to regular revision and audit of compliance.

Author: Yavor Metodiev, May 2022

References:

- Singata M, Tranmer J, Gyte GML. Restricting oral fluid and food intake during labour. Cochrane Database of Systematic Reviews 2013, Issue 9. Art No: CD003930. DOI: 10.1002/14651858.CD003930.pub3.
- National Institute for Health and Care Excellence (2014). Intrapartum care: care of healthy women and their babies during childbirth (CG190). Available at: https://www.nice.org.uk/ guidance/cg190/chapter/1-Recommendations#care-in-established-labour

9.1 All women should have an accurate fluid balance chart during labour.

Any woman in labour should be encouraged to void every 2 hrs however if she is unable to do so herself or there is a palpable bladder then an in/out catheter should be offered at 4hrs.

- Low urine output <30mls/hr or or <120ml when catheterised at 4 hours or negative fluid balance

Please inform On call Obstetric team for advice and management
If ongoing reduced urine output despite intervention perform a urea and electrolyte blood test.

- In event of positive fluid balance.

If greater than 1000mls please inform Obstetric team
If greater than 1500mls – please see hyponatraemia section for management.

- If a woman has a cardiac/renal condition or is being treated for pre-eclampsia please see relevant section in this guideline or PET guideline for fluid management.

10 Fluid and Electrolyte Balance (hyponatraemia)

Hyponatraemia Guideline.pdf

Peripartum Sodium Monitoring Pathway

Women require sodium monitoring if they are:

- On an oxytocin infusion (inc IOL, augmentation post partum)
- In labour and require IV insulin and dextrose
- Noted to have a blood sodium level below 130mmolL^{-1} for any reason
- Greater than 1500mls positive on their fluid balance

Signs of severe hyponatraemia: Headache, Confusion, Reduced conscious level, seizures.

Blood sodium (mmolL^{-1})

130 or greater

- Repeat Na 8hrly
- If fluid balance exceeds +1500mls repeat Na

125-129

- Repeat Na 4hrly
- Fluid restrict to 80mls/hr
- Inform Obs and Anaesthetics team
- Continue Oxytocin
- Neonatal team for delivery

Below 125

- Repeat Na 2hrly
- Fluid restrict 30ml/hr
- Stop oxytocin
- Immediate Obs and anaes team review. Decision for further oxytocin vs delivery.
- Neonatal team for delivery

Delivery or completion of oxytocin infusion
(most recent sodium result)

130 or greater

No further action required unless clinically indicated.

125-129 & asymptomatic

- Repeat Na within 8hrs
- Observe for Sx
- Continue fluid balance
- No need for fluid restriction.

Below 125 or symptomatic <130

- Repeat Na in 4hrs
- Fluid restrict 30ml/hr
- Continue fluid balance
- Obs/Anaes review
- Observe for Sx

11. Cardiac Disease

11.1 Risk Assessment:

- All women with significant cardiac disease should be referred for assessment and management by the Cardiac Antenatal Clinic (alternate Wednesday Clinics).
- Intrapartum Care plans generated at the Cardiac Antenatal clinic should be printed from clinic and filed at the front of the All Wales Maternity "green" notes.
- Not all women with cardiac disease are at high risk of intrapartum complications and for these women their care is in line with normal intrapartum care.
- Women where cardiac disease is diagnosed in the intrapartum period URGENT MDT discussions are needed to ensure the woman is offered the same level of care as a patient presenting with an existing diagnosis of cardiac disease.
- For women in labour – reassess risk on admission.

1. Comprehensive Clinical assessment, including history and physical examination.
2. Modified WHO classification of risk. https://www.escardio.org/static-file/Escardio/Guidelines/publications/PREGN%20Guidelines-Pregnancy-FT.pdf
3. New York Heart Association (NYHA) functional class. https://www.heart.org/en/health-topics/heart-failure/what-is-heart-failure/classes-of-heart-failure

- Cardiac patient should be offered the same investigations as women who are not pregnant. Results should be reviewed and acted on appropriately.

10.1 Mode of delivery:

- Individualised birth plans, which should be written in Cardiac Antenatal Clinic and filed in the patient's notes.
- Birth plan should cover all 3 stages of labour.
- Offer planned birth for women with mechanical heart valves
- Consider planned caesarean section for the following:

1. Any disease of the aorta assessed as high risk
2. Pulmonary Arterial Hypertension.
3. NYHA Class III or IV heart disease

If planning an elective caesarean section explain the benefits and risks of caesarean section. If the woman chooses not to have a caesarean section, explain the benefits and risks of an assisted second stage of labour compared with active pushing alone.

- For women having a planned elective caesarean section, create an individualised emergency care plan in case the woman presents in early labour, with new symptoms or with obstetric complications.

10.2 Fluid management for women with cardiac disease.

10.2.1 Identify women with heart disease for whom fluid balance is critical to cardiac function:

1. Severe left sided stenotic lesion (aortic stenosis/mitral stenosis)
2. Hypertrophic cardiomyopathy
3. Cardiomyopathy with systolic Ventricular dysfunction
4. Pulmonary Arterial Hypertension
5. Fontan circulation and other univentricular circulations
6. NYHA class IV heart disease

10.2.2 Offer tailored monitoring and clinical review during the intrapartum period

- Consider using HDU chart in labour rather than standard MEOWS
- Hourly monitoring of fluid input and output, Heart rate, pulse, Blood pressure and oxygen saturations. Chart should be reviewed by senior obstetrician every 4 hours.
- In high risk cases continuous ECG and pulse oximetry with interpretation by trained staff – if deemed necessary by Obstetric Cardiac Team.
- If indicated continuous intra-arterial blood pressure monitoring.

10.2.3 Offer standard fluid management during the intrapartum period for women with Modified WHO 1 and NYHA class I heart disease.

11 Asthma

Any specific requirements in intrapartum should be documented on the green front sheet in the All Wales handheld notes.

11.1 Analgesia in Labour

No restrictions. Offer women with asthma the same options for pain relief during labour as women without labour.

- Entonox
- IM Pethidine
- Epidural New Labour Epidural Guidelines V2.pdf

- Combined spinal Epidural

12 Long Term Steroid Use

Ideally intrapartum steroid replacement regimes should be documented on the green intrapartum considerations antenatally and filed in the front of the patient All Wales handheld pregnancy notes.

12.1 Steroid replacement regimes.

If antenatal corticosteroids are given for fetal lung maturity this does not affect the replacement regime in labour.

Women with Adrenal Insufficiency or taking long term oral steroids (equivalent to 5mg or more of prednisolone daily for more than 3 weeks).

12.2 Vaginal Delivery

Continue taking their regular oral steroids and when established in first stage of labour add IV or IM hydrocortisone and consider a minimum of 50mg every 6hrs until 6hrs postnatal.

12.3 Planned elective or Emergency Caesarean section.

Continue regular oral steroids and given IV hydrocortisone when starting the anaesthetic. Dose will depend on whether the woman has received hydrocortisone in labour:

- Consider giving 50mg if patient has had hydrocortisone in labour
- Consider giving 100mg if the patient has not had hydrocortisone in labour or is planned to have an elective caesarean section.
- Give a further dose of 50mg Hydrocortisone IV/IM 6hrs postnatal.

12.3.1 Do Not offer supplemental hydrocortisone in the intrapartum period to women taking inhaled or topical steroids.

For further information re: Management of long term steroid use - http://nww.cardiffandvale.wales.nhs.uk/pls/portal/docs/PAGE/CARDIFF_AND_VALE_INTRANET/TRUST_SERVICES_INDEX/ENDOCRINOLOGY_CP/OUTPATIENTS_REFERRALS/SURGICAL%20GUIDELINES%20FOR%20ADRENAL%20INSUFFICIENCY.DOCX

13 Bleeding disorders

Clear pre-printed care plan for all 3 stages of labour should be filed in the patient's nots from the Haematology Antenatal Clinic or documentation on the green Intrapartum Care plan at the front of the patient All Wales handheld notes.

13.1 Regional anaesthesia and analgesia for women with bleeding disorders.

Patients with bleeding disorders should be referred to the Anaesthetic Antenatal Clinic for review and discussion of the benefits and risks of regional analgesia and anaesthesia. Anaesthetic plan recorded and filed in the patient All Wales Handheld notes.

Modifying the birth plan according to platelet count or function

13.1.1 Women with known Immune Thrombocytopenic Purpura before admission for birth:

- Plan birth on Delivery Suite
- Plan as if baby will be at risk of bleeding irrespective of the woman's platelet count.
- Consider monitoring maternal platelet count weekly from 36 weeks and if below 50 – discuss and agree plan for intrapartum care with haematology ANC team.

13.1.2 For women with immune thrombocytopenic purpura on admission for birth

- FBC to measure platelet count
- Group and save – if Resus negative cross match 2 units of blood.
- Manage intrapartum care according to table 1 based on platelet count

13.1.3 For women with known or suspected ITP, take the following precautions to reduce risk of bleeding for the baby:

- Inform neonatal team of imminent birth of at risk baby.
- Fetal scalp electrode with extreme caution – senior obstetrician decision.
- Do not use ventouse
- Use mid-cavity or rotational forceps with caution – most senior obstetrician to perform if deemed necessary.
- Caesarean section may not protect the baby from bleeding
- Measure the platelet count in the umbilical cord blood at birth – discuss with neonatal team.

Modify the birth plan based on maternal platelet count, using table 1 as a guide for women with:

- Gestational Thrombocytopenia (without PET/HELLP and otherwise well)

- An uncertain diagnosis of immune thrombocytopenia purpura.

13.2 Table 1 – Modifying the birth plan according to maternal platelet count in women with ITP or Gestational thrombocytopenia

Maternal Platelet Count	Maternal Care	Fetal/Neonatal Care
Platelet count above $80x10^9/L$	Treat women as healthy for the purpose of considering regional analgesia and anaesthesia.	• If the woman has ITP or suspected ITU, assume the baby is at risk of bleeding ant take precautions outlined in 7.2.3 • If the woman has gestational thrombocytopenia, assume the baby has a normal risk of bleeding.
Platelet count $50\text{-}80x10^9/L$	Before considering regional analgesia/anaesthesia take into account: • Clinical Hx • Woman's preferences • Anaesthetic expertise.	• If the woman has ITP or suspected ITU, assume the baby is at risk of bleeding ant take precautions outlined in 7.2.3 • If the woman has gestational thrombocytopenia, assume the baby has a normal risk of bleeding.
Platelet count below $50x10^9/L$	Avoid regional analgesia/anaesthesia under most circumstances.	• If the woman has ITP or suspected ITU, assume the baby is at risk of bleeding ant take precautions outlined in 7.2.3 • If the woman has gestational thrombocytopenia, assume the baby has a normal risk of bleeding.

13.3 Management of the third stage of labour for women with bleeding disorders.

Be aware that women with bleeding disorders are at increased risk of primary and secondary postpartum haemorrhage.

Offer active third stage of labour rather than physiological for women with bleeding disorders in line with the intrapartum care guideline.

See All Wales Midwife Led Guideline

For women with bleeding disorders avoid uterotonics by IM injection.

All women should receive postpartum care

- Measured blood loss
- Monitor for obstetric complications
- Monitor haematological parameters
- Avoid Non-steroidal anti-inflammatory drugs

Before discharge from hospital, inform women with bleeding disorders of the risk of secondary bleeding postpartum and how to access care.

14 Acute Kidney injury or Chronic Kidney Disease.

Acute Kidney Injury – Sudden or abrupt failure or damage to the kidney that happens over the space of hours or days.

Chronic Kidney disease – is a long term condition where the kidneys do not function as they should. It is classified according to estimated glomerular filtration rate measured before pregnancy.

During pregnancy involve the MDT in risk assessment for women with kidney disease. This should include a renal physician with expertise in managing renal conditions in pregnant women.

All pregnant women with kidney disease should have a documented intrapartum care plan for all 3 stages of labour in their All Wales handheld notes.

For women with CKD stage 1, stable renal function and non-nephrotoxic-range proteinuria (PCR <300mg/mmol), base decisions on timing and mode of delivery on woman's preference and obstetric indications.

Consider planned birth by 40^{+0} for women with:

- CKD stage 1 and nephrotoxic-range proteinuria (PRC >300mg/mmol)
- CKD stage 2-3 with stable renal function.

For women with CKD stage 5 or deteriorating sage 3 and 4

- before 34 weeks, discuss option of dialysis with the woman and the MDT in an effort to prolong pregnancy top 34^{+0} weeks.
- After 34 weeks, discuss option of planned birth with the woman and MDT and consider birth no later than 38^{+0} weeks.

For all women with kidney disease, including those with a kidney transplant, base decisions on mode of birth on the woman's and obstetric indications.

14.1 Fluid management for women with kidney disease.

Manage AKI secondary to pre-eclampsia in line with recommendation in the local Pre-eclampsia guideline

Hypertensive Disorders in Pregnancy and Home BP Monitoring.pdf

For women with CKD with or without pre-eclampsia, monitor fluid balance in the intrapartum period. Measure Heart rate hourly and following every 4 hours:

- Blood pressure
- Respiratory rate
- Fluid input/output
- Oxygen saturations
-

Aim of management is to maintain normal fluid balance to reduce the risk of kidney injury or pulmonary oedema (fluid overload)

- Assess renal function every 24hrs as prolonged labour may result in dehydration and acute kidney injury.

14.1.1 For women with acute kidney injury

- Identify cause of acute kidney injury
- Measure heart rate hourly and BP/Resp rate, fluid balance/oxygen saturations every 4 hours.
- Develop individualised plan for managing fluid balance with the aim of maintaining normal fluid volume and avoiding both dehydration and pulmonary oedema.
- Consider giving a single small bolus of fluid as crystalloid if the woman is dehydrated and review fluid status and urine output within an hours of giving before considering a second bolus.
- Continue to monitor fluid balance and renal function until AKI has recovered.
- Do not offer nephrotoxic drugs (e.g. NSAIDs) in the intrapartum period to women with kidney disease.

15 Large for gestational age baby

Mode of birth for babies suspected to be large for gestational age

Delivery for suspected large for gestational age babies - on clinical palpation or EFW by USS above >97th centile for growth - should occur on delivery suite.

If not other Obstetric concerns except suspected large for gestational age, All Wales Labour pathway can be followed but avoid delivery in water.

Explain to women in labour whose babies are suspected to be large for gestational age that

- It is sometimes difficult to be certain the suspicion is correct until the baby is born.
- When making decisions about mode of delivery, this uncertainty needs to be taken into account.

Discuss with the woman the possible benefits and risks of vaginal delivery and caesarean section including:

- Higher chance of maternal risk with emergency caesarean section
- Higher chance of shoulder dystocia and brachial plexus injury with vaginal birth
- Higher chance of instrumental birth and perineal trauma with vaginal birth.

Explain to the woman and birth partner what it might mean if such problems arise.

Offer women in labour whose babies are suspected to be large for gestational age (by clinical palpation or growth by EFW above 97th centile) and who do not have a clearly documented discussion antenatally, the choice between continuing labour, including augmentation and caesarean section.

15.1 Risk assessment and management of labour for women with no antenatal care.

Manage on Delivery Suite as Consultant Led Care

If possible, take a full medical, psychological and social history from women who have had no antenatal care.

- Try to find out why there has been no antenatal care
- Ask the woman who, if anyone, she would like to support her as her birth partner during labour
- Explore sensitively any possible vulnerability or safeguarding concerns, including:

- Young maternal age
- Maternal mental health
- Maternal learning disabilities
- Maternal substance misuse
- Domestic or Sexual abuse
- Homelessness
- Human Trafficking
- Undocumented migrant status
- Female Genital Mutilation
- The woman or family members being known to Children's Services or Social Services.

Carry out an obstetric and general medical examination as soon as possible.

Carry out an assessment of the inborn baby, including ultrasound if possible, to determine:

- Viability
- Presentation
- An estimated gestation
- Possibility of multiple pregnancy

Offer women who have had no antenatal care, tests for,

- Anaemia (FBC)
- Haemoglobinopathies
- Blood group and rhesus status
- Atypical red cell antibodies
- Random glucose
- Asymptomatic bacteriuria
- HIV, Hepatitis B and syphilis

Offer rapid HIV testing to women thought to be at high risk of infection which may include:

- Recent migrants from countries with high rates of HIV infection
- Women who misuse substances intravenously
- Suspected sexual abuse

Explain to the woman why and when information about her pregnancy may need to be shared with other agencies.

Contact the woman's GP and if appropriate other health or social care professionals for more information about the woman's history and plan ongoing care.

If any safe guarding concerns are identified refer onto the appropriate agency.

For further HIV Guidance - HIV in Pregnancy.pdf

16 Labour after 42 weeks of pregnancy

Patients who labour after 42^{+0} weeks of gestation are recommended to labour on Delivery Suite under Consultant Led Care with continuous cardiotocography after a full discussion of the benefits and risks to the woman and her baby.

Respect the woman's decision if she declines continuous cardiotocography.