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Guidelines for the Management of Intrapartum Care

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Guidelines Definition

Clinical guidelines are systemically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person
New Guideline for CTMUHB	Amalgamation of POW into CTMUHB	All	20/3/2020	1	Mohamed Elnasharty

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1. Introduction

This guideline has been developed for Cwm Taf Morgannwg University Health Board, incorporating previous guidance from Cwm Taf University Health Board and Abertawe Bro Morgannwg University Health Board. These guidelines replace any previous health board versions.

This guideline has been developed to support clinicians in the provision of optimal care to women and their babies in the management of Intrapartum care.

This guideline covers the care of healthy women and their babies, during labour and immediately after the birth. It focuses on women who give birth between 37 and 42 weeks of pregnancy ('term').

The guideline supports clinicians in helping women to make an informed choice about where to have their baby. It also aims to reduce variation in areas of care such as fetal monitoring during labour and management of the third stage of labour.

2. Choosing the place of birth

- Explain to both multiparous and nulliparous women who are at low risk of complications that giving birth is generally very safe for both the woman and her baby.
- Explain to both multiparous and nulliparous women that they may choose any birth setting (home, freestanding midwifery unit, alongside midwifery unit or obstetric unit), and support them in their choice of setting wherever they choose to give birth.
- Advise low-risk multiparous women that planning to give birth at home or in a midwifery-led unit (freestanding or alongside) is particularly suitable for them because the rate of interventions is lower and the outcome for the baby is no different compared with an obstetric unit.
- Advise low-risk nulliparous women that planning to give birth in a midwifery-led unit (freestanding or alongside) is particularly suitable for them because the rate of interventions is lower and the outcome for the baby is no different compared with an obstetric unit. Explain that if they plan birth at home there is a small increase in the risk of an adverse outcome for the baby.
- Explain to low-risk multiparous women that:
    - ✓ planning birth at home or in a freestanding midwifery unit is associated with a higher rate of spontaneous vaginal birth than planning birth in an alongside midwifery unit, and these 3 settings are associated with

higher rates of spontaneous vaginal birth than planning birth in an obstetric unit.
  - ✓ planning birth in an obstetric unit is associated with a higher rate of interventions, such as instrumental vaginal birth, caesarean section and episiotomy, compared with planning birth in other settings.
  - ✓ There are no differences in outcomes for the baby associated with planning birth in any setting.
  - ✓ planning birth at home is associated with an overall small increase (about 4 more per 1000 births) in the risk of a baby having a serious medical problem compared with planning birth in other settings.
- If further discussion is wanted by either the midwife or the woman about the choice of planned place of birth, arrange this with a consultant midwife and/or a consultant obstetrician if there are obstetric issues.
- When discussing the woman's choice of place of birth with her, do not disclose personal views or judgements about her choices.

2.1 Low Risk Women

- All women should be given information about their birth options during the antenatal period by their community midwife. Women may choose to deliver at home, in the stand alone birth centre, in the alongside midwifery led unit in the acute hospitals or in consultant led unit (labour ward). Wherever the woman chooses to labour and give birth (all care settings), her care should be managed as described in these guidelines and referral for obstetric opinion must be made if any deviations from the normal occur.
- Women with uneventful pregnancies who are on a "low risk" care pathway can choose to deliver in any of the birth settings available and will remain the responsibility of the midwife including for their Intrapartum care.
- <u>Criteria for "low risk" Intrapartum management include: (refer to All Wales Midwifery Led Guideline)</u>
- If a woman is seen in the birth centre or at home and the midwife has identified risk factors in the woman's history or the patient does not satisfy the low risk criteria then this will be discussed with the woman and her birth partner and referral for obstetric opinion must be recommended by the midwife. A transfer to the labour ward for "high risk" (listed below) Intrapartum management may be required and rationale for transfer should be discussed with the woman.
- The Health Board aims to provide one to one midwifery care for any woman in established labour. A woman in established labour should not be left alone except for short periods or at the woman's request. If the midwife needs to leave the room she should ensure that she

informs the woman how long she intends to be absent from the room and reassure her to use the call bell whenever necessary.
The management of normal labour and delivery needs to be provided on an individual basis following discussion with the woman and after considering her birth plans.

PRIVACY AND DIGNITY OF PATIENTS MUST BE MAINTAINED AT ALL TIMES.

2.2 High Risk Women

All high-risk patients admitted to labour ward must be seen by an obstetrician as soon as possible. Obstetricians must attend the labour ward whenever this is requested. The Obstetric Registrar must be informed immediately of any concerns or of any women presenting with the following conditions by the admitting midwife and/or a junior obstetrician.

Criteria for high risk labour are (this is not an exhaustive list):

- Antepartum haemorrhage
- Postpartum haemorrhage
- Breech, other Malpresentation
- High, mobile head; cord presentation or prolapsed
- Severe pre-eclampsia or eclampsia, pregnancy-induced hypertension (PIH.
- Multiple pregnancies
- Preterm labour or preterm premature rupture of membranes.
- Meconium-stained liquor
- Abnormal fetal heart rate
- Any pregnancy identified as HIGH RISK in the case notes such as previous Stillbirth, Intrauterine Growth Restriction (IUGR), Caesarean Section, difficult delivery etc.
- Diabetes Mellitus
- Cardiac disease
- Epilepsy
- Suspected fetal demise
- Suspected scar dehiscence or risk factors for ruptured uterus.
- Suspicious of oligohydramnios in labour
- Anticipated anaesthetic problems – inform Anaesthetist immediately

Please note the woman may be on the high risk pathway for care in labour but does not need Cardiotocography (CTG) i.e. previous Postpartum Haemorrhage.

Transfer the woman to obstetric-led care if any of the following are observed at any point, unless the risks of transfer outweigh the benefits:

- **Observations of the woman:**
  - Pulse over 120 beats/minute on 2 occasions 30 minutes apart
  - Single reading of either raised diastolic blood pressure of 100 mmHg or more or raised systolic blood pressure of 160 mmHg or more
  - Either raised diastolic blood pressure of 90 mmHg or more or raised systolic blood pressure of 140 mmHg or more on 2 consecutive readings taken 30 minutes apart
  - A reading of 2+ of protein on urinalysis and a single reading of either raised diastolic blood pressure (90 mmHg or more) or raised systolic blood pressure (140 mmHg or more)
  - Temperature of 38°C or above on a single reading, or 37.5°C or above on 2 consecutive occasions 1 hour apart
  - Any vaginal blood loss other than a show
  - The presence of significant meconium
  - Pain reported by the woman that differs from the pain normally associated with contractions
  - Confirmed delay in the first or second stage of labour
  - Request by the woman for additional pain relief using regional analgesia
  - Obstetric emergency – including antepartum haemorrhage, cord prolapse, postpartum haemorrhage, maternal seizure or collapse, or a need for advanced neonatal resuscitation
  - Retained placenta
  - Third-degree or fourth-degree tear or other complicated perineal trauma that needs suturing.

- **Observations of the unborn baby:**
  - Any abnormal presentation, including cord presentation
  - Transverse or oblique lie
  - High (4/5–5/5 palpable) or free-floating head in a nulliparous woman
  - Suspected fetal growth restriction or macrosomia
  - Suspected anhydramnios or polyhydramnios
  - Fetal heart rate below 110 or above 160 beats/minute
  - Deceleration in fetal heart rate heard on intermittent auscultation

If none of these are observed, continue with midwifery-led care unless the woman requests transfer.

3. Admission of Women in Labour

The majority of women will refer themselves. It is good practice for all women to be seen by a midwife within 5 – 10 minutes of presentation

3.1 Initial Assessment

Initial assessment by the midwife should include:

- Greet the woman with a smile and a personal welcome, establish her language needs, introduce yourself and explain your role in her care.
- Identify if there are any language needs i.e. for interpretation.
- Maintain a calm and confident approach so that your demeanor reassures the woman that all is going well.
- Knock and wait before entering the woman's room, respecting it as her personal space, and ask others to do the same.
- Ask how the woman is feeling and whether there is anything in particular she is worried about.
- If the woman has a written birth plan, read and discuss it with her.
- Review the antenatal records to determine any special instructions for labour and to identify risk factors. A discussion regarding previous labours/pregnancies may be useful.
- Assess the woman's knowledge of strategies for coping with pain and provide balanced information to find out which available approaches are acceptable to her.
- Encourage the woman to adapt the environment to meet her individual needs.
- Ask her permission before all procedures and observations, focusing on the woman rather than the technology or the documentation.
- Refusal of specific procedures must be recorded, timed, dated and signed in the woman's health record.
- Show the woman and her birth companion(s) how to summon help and reassure her that she may do so whenever and as often as she needs to. When leaving the room, let her know when you will return.
- Involve the woman in any handover of care to another professional, either when additional expertise has been brought in or at the end of a shift.
- Listen to the labour story including length, strength and frequency of contractions, any vaginal loss and also identify if any other emotional or psychological needs.
- Discuss fetal movements.
- Identify if any allergies or medications.
- Undertake clinical examination, temperature, pulse, BP, respiratory rate, urinalysis. These must be recorded in the woman's records.

- Ascertain if presence of oedema or varicose veins.
- An abdominal palpation should be undertaken which should include fundal height, lie of fetus, presentation, position, engagement and estimated size of fetus and any other significant features.
- The fetal heart rate should be auscultated first with a Pinard's or Doppler ultrasound (Sonic aid). The fetal heart rate should be auscultated for at least one minute immediately after a contraction. The maternal pulse should be palpated simultaneously to differentiate between maternal and fetal heart rate. The fetal heart rate should be assessed for baseline rate, variability, accelerations and presence/absence of decelerations. This must be recorded in the woman's records.
- Undertake pressure area assessment.
- Undertake infection control assessment.
- Undertake venous Thrombo-embolism (VTE) assessment.
- Undertake reassessment of risk status.
- **Low risk women with a satisfactory fetal heart rate do not require an initial CTG.**
- In patients not classified as "low risk", initial CTG for 20 – 30 minutes following abdominal palpation and having first checked the fetal heart rate (FHR) with a Pinard's. If midwife is unsure regarding low risk status please discuss with Labour Ward Co-ordinator to ascertain if admission CTG is required.
- In women previously deemed low risk with fetal heart rate abnormalities identified on intermittent auscultation the woman and her partner should be advised of the recommendation for electronic fetal heart rate monitoring and transfer to labour ward facilitated if they are in the birth centre or in the home.
- If the woman is deemed as high risk, the labour management plan should be documented in the woman's health record and the midwife should pay particular attention to this plan. These women should be offered electronic fetal monitoring as part of the initial assessment.
- **A vaginal assessment should be offered if the woman appears to be in established labour and considered if she does not appear to be in established labour.**
- **In case of Pre Labour Rupture of Membranes (PPROM), speculum examination should be offered first.**

3.2 Un-booked Women

- Women who have presented at labour ward unbooked for pregnancy should be considered as increased risk. Migrant women including asylum seekers and newly arrived refugees, have a much higher mortality rate. If there is no evidence of these women accessing medical care it is not possible to exclude potential pre-existing medical conditions that may affect their health.

- Any unbooked woman should have a full history taken as per Antenatal Booking and all appropriate investigations should be instigated, i.e. Blood group, rhesus factor and save serum, full blood count, antibodies, Blood Borne Virus Screening, venereal disease research laboratory (VDRL) test, Rubella and sickle cell screening if appropriate for the woman's ethnicity.

4. Vaginal Examinations

- All vaginal examinations (VE's) must be preceded by a preliminary abdominal examination, the findings of which should be recorded in the woman's health record.
- The woman's verbal consent should be obtained and documented in the woman's health record. The reason for the examination and what it will involve should be explained.
- Privacy and dignity throughout the procedure are paramount.
- Every vaginal examination should be justified i.e. that it will add important information to the decision making process.
- Vaginal examinations can be very distressing if the woman is already in pain, anxious and in an unfamiliar environment.
- Tap water may be used for cleansing prior to examination, sterile gloves are recommended.
- After the initial vaginal examination to confirm the diagnosis of labour, the next vaginal examination is preferably carried out following a further 4 hours of regular contractions unless otherwise clinically indicated (e.g. fetal distress).
- Details to be recorded in the woman's health record following any vaginal examination:
    - ✓ Date and time.
    - ✓ Vaginal examination number.
    - ✓ Cervix: Dilatation, effacement, position and consistency.
    - ✓ Presenting part: Presentation, station, moulding or caput
    - ✓ Membranes:
        - Ruptured – Yes or No
        - If liquor draining – colour and volume
    - ✓ Fetal heart rate on completion.
    - ✓ Signature.
    - ✓ Print name and job title beneath.
- All the above details must be legible in the woman's health records.
- Explain findings of the vaginal examination sensitively to woman and her partner.
- If not in established labour and all of the previously detailed admission criteria are normal, the woman should be reassured regarding the normal process of onset of labour. The use of the

word "only" with regards to minimal dilatation can be disheartening therefore positive reinforcement of any cervical changes are recommended with an explanation of the latent phase of labour as follows may be more useful.

4.1 Presence of meconium (refer to the CTMUHB Meconium Guideline)

- ✓ As part of ongoing assessment, document the presence or absence of significant meconium. This is defined as dark green or black amniotic fluid that is thick or tenacious, or any meconium-stained amniotic fluid containing lumps of meconium.
- ✓ If significant meconium is present, ensure that healthcare professionals trained in advanced neonatal life support are readily available for the birth.
- ✓ If significant meconium is present, transfer the woman to obstetric -led care provided that it is safe to do so and the birth is unlikely to occur before transfer is completed**.**

5. Minimum criteria for diagnosis of labour

5.1 Latent phase of labour

A period of time, not necessarily continuous, when there are painful contractions and there is some cervical change, including cervical effacement and dilatation up to 4 cm. If required, the woman may be offered analgesia and encouraged to remain at, or return home to await establishment of labour.

5.2 Active phase of labour

Painful regular contractions (at least 2 contractions in 10 minutes) and progressive cervical dilatation from 4 cm.
NOTE: If a woman is significantly post-dates at the time of initial admission, though not in active labour, consider expediting delivery, refer to senior obstetric employees for a decision.

5.3 Women in spontaneous labour with antenatal risk factors

Women who are booked under Consultant Led Care because of fetal concerns should be offered electronic fetal monitoring during the initial assessment on admission. If the midwife looking after the woman as well as the Midwife in charge ('fresh eyes approach') is satisfied that the fetal heart monitoring is normal, it is not necessary to ask a doctor to review. Any abnormality should be reported to middle grade obstetrician and the

woman must not leave the labour ward until the Cardiotocograph (CTG) tracing has been reviewed.

5.4 Discharging Home- for women who are not in labour

Women with normal, low risk pregnancies not in labour do not need to be discussed with or be seen by the middle grade obstetrician on call prior to discharge.

All other women discharged from labour ward need to be discussed with/or seen by the middle grade obstetrician on call on call prior to discharge.

6. Pain Relief in Labour- Supporting Women When Making Choices about Pain Relief

- Many factors, including the woman's expectations, the length and complexity of her labour and the severity of the pain (as the woman experiences it) affect each woman's attitudes towards pain relief in labour. The Midwife sensitively needs to assess each woman's attitudes during their initial care in labour in order to support them in labour.
- Some women believe that there is no need to suffer the pain of labour when analgesia is available and other women feel strongly that birth is a natural process and that the "pain of labour" should be embraced as a natural part of the birth process with the emphasis on uterine muscles working hard to achieve birth rather than the pain which many women would usually associate with something being wrong in the body.
- Women need to be in control of their labour and good communication and supportive, informed collaborative decision making with regard to analgesia, if requested by the woman, is fundamental to a positive birth experience.

6.1 Pain Relieving Strategies

- Ensure that their care supports the woman's choice.
- Offer support and encouragement.
- Encourage and facilitate birth partners to be involved with support as much as possible.
- Encourage the woman to ask for analgesia at any point in labour.
- Encourage the use of water (Pool/Bath) in labour to reduce pain.
- Women using water in labour should have hourly maternal temperature recorded to ensure that she does not develop pyrexia. The water temperature should not go above 37.5 degrees Centigrade.

- Support women's use of breathing/relaxation techniques massage, music.
- Do not prevent women if they wish to use alternative therapies Aromatherapy see Use of essential Oils in Maternity Care Clinical Guideline, Acupuncture, Acupressure and Hypnosis but these should only be provided by qualified practitioners.
- There is no evidence to support the use of TENS in established labour.

6.2 Inhalational Analgesia and Opioids

Women may choose to use Entonox® and opioids in labour. The Midwife should ensure that she explains the following:

- They provide limited pain relief in labour.
- Entonox® may make the woman feel nauseous and light headed.
- Opioids may cause drowsiness, nausea and vomiting in the woman.
- Opioids may cause short term respiratory depression and drowsiness for several days in the baby
- Opioids may interfere with breastfeeding.

An antiemetic should be administered with opioids unless the woman declines.
Women should not enter water within two hours of opioid administration or if they feel drowsy.

6.3 Epidural Pain Relief in Labour (Refer to local epidural guidelines)

Epidurals are only available in Labour ward. If a woman requests an epidural she should be provided with adequate information to make an informed decision.

- The woman should be informed that:
    - Epidurals provide more effective pain relief than opioids but that they are not always 100% effective at alleviating all pain (or relieving pressure sensations in labour).
    - Epidurals are associated with a longer second stage of labour and an increased chance of instrumental delivery.
    - Epidurals are not associated with long term backache, longer first stage of labour or increased chance of Caesarean Section.
    - The woman will require increased levels of monitoring and intravenous access.
    - Epidurals contain opioids and these cross the placenta. In larger doses (these may cause short term respiratory depression in the baby and make the baby drowsy.)

- Women who request epidural analgesia should not be denied it, including women in severe pain in the latent phase of labour.

6.4 Timing of regional analgesia

- If a woman in labour asks for regional analgesia, comply with her request. This includes women in severe pain in the latent first stage of labour.

6.5 Care and observations for women with regional analgesia

- Always secure intravenous access before starting regional analgesia.
- Preloading and maintenance fluid infusion need not be administered routinely before establishing low-dose epidural analgesia and combined spinal–epidural analgesia
- During establishment of regional analgesia or after further boluses (10 ml or more of low-dose solutions), measure blood pressure every 5 minutes for 15 minutes.
- If the woman is not pain-free 30 minutes after each administration of local anaesthetic/opioid solution, recall the anaesthetist.
- Assess the level of the sensory block hourly.
- Encourage women with regional analgesia to move and adopt whatever upright positions they find comfortable throughout labour.
- Once established, continue regional analgesia until after completion of the third stage of labour and any necessary perineal repair.
- Upon confirmation of full cervical dilatation in a woman with regional analgesia, unless the woman has an urge to push or the baby's head is visible, pushing should be delayed for at least 1 hour and longer if the woman wishes, after which actively encourage her to push during contractions.
- After diagnosis of full dilatation in a woman with regional analgesia, agree a plan with the woman in order to ensure that birth will have occurred within 4 hours regardless of parity.
- Do not routinely use oxytocin in the second stage of labour for women with regional analgesia.

- Perform continuous cardiotocography for at least 30 minutes during establishment of regional analgesia and after administration of each further bolus of 10 ml or more.

7. Progress and Management of Normal Labour- Management of the first stage of labour

If the woman is in active labour:

- Check antenatal notes for any special instructions related to delivery.
- Start the partogram once in established labour
- Maternal and fetal observations must be documented on the partogram once in established labour.
- Ensure the woman is kept informed of any progress and is involved in any care planning and any changes to an agreed care plan are discussed in full with the woman.
- Consider the woman's emotional and psychological needs and offer support and reassurance where possible
- Offer analgesia as appropriate.
- Document frequency of contractions every 15 – 30 minutes and on the partogram.
- Check temperature and blood pressure 4 hourly.
- Regularly check frequency of bladder emptying (usually 2-4 hourly).
- Offer vaginal examinations at 4 hour intervals (unless otherwise clinically indicated) when in established labour with documented verbal consent. If the woman declines the reason for declining should be documented.
- In normal labour artificial rupture of membranes (ARM) should not be performed routinely.

7.1 Delay in the first stage

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

- Parity
- Cervical dilatation and rate of change
- Uterine contractions
- Station and position of presenting part
- The woman's emotional state

- Referral to the appropriate healthcare professional.
  Offer the woman support, hydration, and appropriate and effective pain relief.
- If delay in the established first stage is suspected, assess all aspects of progress in labour when diagnosing delay, including:
  - ✓ Cervical dilatation of less than 2 cm in 4 hours for first labours
  - ✓ Cervical dilatation of less than 2 cm in 4 hours or a slowing in the progress of labour for second or subsequent labours
  - ✓ Descent and rotation of the baby's head
  - ✓ Changes in the strength, duration and frequency of uterine contractions.
    If delay is diagnosed, transfer the woman to obstetric-led care. Follow the general principles for transfer of care
- If delay in the established first stage of labour is suspected, amniotomy should be considered for all women with intact membranes, after explanation of the procedure and advice that it will shorten her labour by about an hour and may increase the strength and pain of her contractions.
- Whether or not a woman has agreed to an amniotomy, advise all women with suspected delay in the established first stage of labour to have a vaginal examination 2 hours later, and diagnose delay if progress is less than 1 cm.
- For women with intact membranes in whom delay in the established first stage of labour is confirmed, advise the woman to have an amniotomy, and to have a repeat vaginal examination 2 hours later whether her membranes are ruptured or intact.
- <u>For all women with confirmed delay in the established first stage of labour:</u>
  - ✓ Transfer the woman to obstetric-led care for an obstetric review and a decision about management options, including the use of oxytocin
  - ✓ Explain to her that using oxytocin after spontaneous or artificial rupture of the membranes will bring forward the time of birth but will not influence the mode of birth or other outcomes.

- For a multiparous woman with confirmed delay in the established first stage of labour, an obstetrician should perform a full assessment, including abdominal palpation and vaginal examination, before a decision is made about using oxytocin.
- Offer all women with delay in the established first stage of labour support and effective pain relief.
- Inform the woman that oxytocin will increase the frequency and strength of her contractions and that its use will mean that her baby should be monitored continuously.
- If oxytocin is used, ensure that the time between increments of the dose is no more frequent than every 30 minutes. Increase oxytocin until there are 3 - 4 contractions in 10 minutes.
- Ensure women are aware of analgesic options with the use of oxytocin infusion for augmentation of labour (e.g. Epidural).
- Advise the woman to have a vaginal examination 4 hours after starting oxytocin in established labour:

  - ✓ If cervical dilatation has increased by less than 2 cm after 4 hours of oxytocin, further obstetric review is required to assess the need for caesarean section.
  - ✓ If cervical dilatation has increased by 2 cm or more, advise 4-hourly vaginal examination

N.B. Fetal Heart Rate Monitoring (Refer to All Wales Fetal Surveillance Guidelines and Standards for Practice)

7.2 Eating and Drinking In spontaneous labour

- Women should be encouraged to drink during established labour and should be informed that isotonic drinks may be more beneficial than water.
- Women should be encouraged to eat a light diet in labour unless they have received opioids or they develop risk factors that make a general anesthetic more likely.
- Do not give routine H2 –receptor agonists or antacids to low risk women. However they should be considered for women who receive opioids, or who have, or develop risk factors that make a general anesthetic more likely.
- Women who are ketotic or dehydrated will need sugary drinks/glucose tablets.

7.3 Intravenous Fluids

If the woman is assessed as ketotic from blood or urine screening with slow progress in labour and glucose tablets, squash drinks etc. have failed to correct the ketosis, consider 1 litre of IV fluid; either Compound Sodium lactate (Hartmann's solution) or sodium chloride 0.9% can be administered on an obstetrician's advice. Hartmann's solution is preferred over sodium chloride 0.9% due to electrolyte disturbance in pregnant women and the effect of Normal Saline deceasing uterine activity in labour (Cheek et al 1996)[2].

An intravenous infusion is required for all patients with:

- High risk pregnancies
- Epidural analgesia
- Significant ketosis (more than + on urine testing), as this may hinder progress in labour
- Poor progress of labour

An intravenous cannula should be sited with consent when there is:

- Significant Meconium staining of liquor at amniotomy associated with any Non-Reassuring or Abnormal fetal heart rate CTG recording
- Previous history of retained placenta.
- Previous history of Postpartum Haemorrhage (PPH)
- Previous CS
- Significant medical complications.

The rationale for insertion of a cannula should be explained to the woman and if declined should be documented in the woman's health record

IMPORTANT

- Maintenance fluid should only be commenced once the losses have been replaced. It is an important distinction as the use of maintenance fluid to treat ketosis does not provide sufficient volume to rectify the ketosis, it only serves to maintain the status quo. It is therefore important that the fluid prescribed is given as a bolus not as a slow infusion over many hours. It would be far more effective to give a 500mls bolus of fluid (Hartmann's being the ideal fluid) then commence maintenance if the patient is unable to maintain oral hydration. Please also be aware that Hartmann's and sodium chloride 0.9% do not provide any calorific value and oral glucose tablets should be encouraged alongside the bolus of fluid.

- As stated in the epidural/regional analgesia guidelines. IV access must be established but IV fluids do not routinely need to be given to patients with an epidural. They should be encouraged to maintain their hydration using oral fluid. IV fluids need only to be given if there is a clinical need to provide either resuscitation, replacement or maintenance and prescribed either as boluses (for resuscitation

and replacement) or infusion for maintenance.

- Fluids can also be given on the advice of an Anaesthetist.

- It is essential that all Intravenous (IV) fluids, additives, blood and parenteral products administered to women are consented and are documented in the All Wales Blood and Parenteral products Prescribing/recording chart.

- A fluid balance chart should also be completed. Accurate record keeping is of paramount importance.

7.4 Intrapartum Care of the Bladder (Refer to CTMUHB Bladder Care Guidelines)

7.4.1 Care of low risk women, without epidural anaesthesia:

- During 1st stage of labour, encourage women to pass urine at 2-3 hourly intervals and document frequency and volume passed in the notes. A full bladder can displace the uterus leading to prolonged labour. During the 3rd stage of labour a full bladder will prevent the uterus from contracting. If IV fluids are in progress, commence and record fluid balance.
- If unable to pass good amounts of urine on two occasions (less than 25 – 50mls) and if on abdominal palpation the bladder is palpable, then an in/out catheter should be passed.
- Maintain a fluid balance chart if catheterisation of the bladder is required, recording fluid input and output, to continue until normal sensation is resumed, the catheter has been removed and the woman has passed urine.
- Ensure the balloon is deflated and catheter removed prior to pushing and delivery.
- During a prolonged 2nd stage, ensure the bladder is emptied and document at regular intervals.

7.4.2 Care of women, with epidural anaesthesia for pain control:

- When an epidural/IV fluids are in progress, record fluid balance.
- The balloon should be deflated and catheter removed prior to delivery.
- A Foleys catheter should be reinserted post-delivery.
- The catheter should be left in situ for all women until the epidural wears off completely and the woman is fully mobile. (Not before 12 hours).

- If an instrumental delivery is required, the balloon of the catheter should be deflated and catheter removed as a prerequisite for undertaking the procedure, this is to prevent trauma occurring to the urethra and bladder neck.
- There are occasions where there is severe perineal trauma, and an in-dwelling catheter is necessary. This is at the discretion of the clinician.
- A woman who had instrumental delivery under spinal anesthesia will need catheter for at least 6 hours after delivery.

7.5 Hygiene in labour

- Regular opportunity should be given to women to meet their own hygiene needs and any support offered where required.
- To reduce cross contamination between mothers, babies and health professionals and eliminate hospital acquired infections, it is imperative that all health professionals adhere to the Health Board guidelines on infection prevention and control.
- This includes the use of single use non-sterile gloves for speculum examinations, standard hand hygiene measures and use of protective equipment where there is a risk of contamination of the health care professionals clothing and skin by the woman's blood, body fluids, secretions or excretions.
- Sterile gloves should be used for vaginal examinations with ruptured membranes or for procedures where there is increased potential for infections such as perineal suturing, instrumental delivery, cannulation or other invasive procedures.
- Wherever possible single use gowns should be used for delivery and protective eye wear is also recommended for Midwife use during procedures where there is significant risk of splash from body fluids.
- Tap water may be used for vaginal examination. Sterile water is recommended for urethral catheterisation and antiseptic solutions for invasive procedures such as perineal suturing or instrumental delivery.

8. Management of the Second Stage of Labour

Passive Second Stage of Labour (Phase 1) – cervix is fully dilated prior to or in the absence of involuntary expulsive contractions.

Onset of the active second stage of labour (Phase 2) can be defined as any of the following:

- When the baby is visible
- Expulsive contractions with a finding of full dilatation of the cervix or other signs of full dilation of the cervix

- Active maternal effort following confirmation of full dilatation of the cervix in the absence of expulsive contractions

8.1 In Second Stage of labour

- Check and document fetal heart rate every 5 minutes after a contraction.
- Document frequency of contractions every 15- 30 minutes.
- Hourly check and document BP pulse and offer VE.
- Every 4 hours check and document maternal temperature.
- These observations (1-4 above) must be recorded on the partogram.
- Regularly check frequency of bladder emptying.
- Encourage upright position.
- If woman has full dilation but no urge to push assess after 1 hour and follow management chart as for Nulliparous or parous women in Instant Information Section (management chart for 2nd stage of labour)
- Continuous monitoring whenever any of the following occur:
    - Abnormal fetal heart rate.
    - Significant Meconium stained liquor
    - Use of an oxytocin infusion
    - Use of an epidural infusion
    - Maternal pyrexia (two episodes of 38 degrees C on two occasions one hour apart.
    - Fresh vaginal bleeding (not mucus blood stained show).
    - Increased diastolic above 90mmHg or increased systolic above 140mmHg twice 30 mins apart.
    - Any high risk pregnancy.
- At the time of head delivery, hands on technique is recommended with verbal consent for the mother

8.2 Episiotomy

- This should only be performed when there is clinical need such as instrumental birth or suspected fetal compromise.
- Do not offer routinely to previous third or fourth degree trauma.
- Use mediolateral technique (between 45 – 60 ° to right side of woman, originating at the vaginal fourchette.)
- Use lidocaine 1% to infiltrate the perineum (or effective epidural) prior to episiotomy.

8.3 Duration and Definition of Delay in the Second Stage of Labour Nulliparous Women

- If the active second stage has lasted 2 hours without birth a diagnosis of delay should be made and the woman should be referred to an obstetrician.
- Birth would be expected within 3 hours from start of active second stage in most women

8.4 Duration and Definition of Delay in the Second Stage of Labour Parous women

- If the active second stage has lasted 1 hour a diagnosis of delay should be made and the woman referred to the obstetrician

8.5 Management of Delay in the Second Stage of Labour Diagnosis

The only accurate means of diagnosis is by vaginal assessment and abdominal palpation of contractions.

Remember:

- Contraction frequency alone is unreliable in assessing uterine activity in labour. In established labour, contraction frequency often has a paradoxical relationship with uterine pressure. Therefore do not just watch the frequency on the tocograph, remember to palpate contractions for strength and duration. 2 out of 3 women feel the urge to push before the cervix is fully dilated.
- The 2nd stage is a continuum in the process of labour and has a pelvic and perineal phase

  Phase I (pelvic or passive phase): from the time the cervix is fully dilated to the time the presenting part descends to the pelvic floor. Delay in this phase may be corrected with Oxytocin, if appropriate. It is not advisable to commence maternal bearing down efforts or carry out a difficult instrumental vaginal delivery after an arbitrary 1 hour in the pelvic phase if the presenting part has not descended beyond the ischial spines.

  Phase II (perineal or active phase): from the end of Phase I to delivery.

8.6 Position of Mother

Any position in which the mother is most comfortable, except flat on back (unless wedged), provided maternal and fetal wellbeing as well as progress and descent are satisfactory.

8.7 Indications for Operative Vaginal Delivery

- **Fetal:** Presumed fetal compromise **Maternal:** To shorten and reduce the effects of the second stage of labour on medical conditions (e.g. cardiac disease Class III or IV*, hypertensive crises, myasthenia gravis, spinal cord injury patients at risk of autonomic dysreflexia, proliferative retinopathy)
- **Inadequate progress**
    - **Nulliparous women** – lack of continuing progress for 3 hours (total of active and passive second-stage labour) with regional anaesthesia, or 2 hours without regional anaesthesia
    - **Multiparous women** – lack of continuing progress for 2 hours (total of active and passive second-stage labour) with regional anaesthesia, or 1 hour without regional anaesthesia
- **Maternal fatigue/exhaustion**.

Remember:

- The longer the period of active pushing, the greater the risk of postpartum haemorrhage and perinatal morbidity (fetal acidosis).
- Correct maternal ketosis which can develop quickly with prolonged pushing. Increased lactate accumulation, reduces the strength of uterine contractions.
- Commencement of pushing too early in the 2nd stage is invariably associated with an increased frequency of difficult instrumental deliveries and even Caesarean Section
- Delay in descent (phase 1) may be due to:
    - Cephalopelvic disproportion: Caesarean Section is indicated
    - Dysfunctional labour: Oxytocin must be used with caution in multiparous women and in those with previous Caesarean Section due to risk of uterine rupture.
    - Malposition.
    - Large baby with impending shoulder dystocia.
- If there are significant sub optimal features in the CTG during second stage of labour, delivery must be expedited by the safest possible route.

9. Management of the Third Stage of Labour for Vaginal Delivery

- The third stage of labour commences following the birth of the baby and ends after expulsion of the placenta and membranes.
- During the third stage of labour strong uterine contractions continue at regular intervals (due to oxytocin). Uterine fibres shorten, or retract, with each contraction leading to a gradual decrease in the size of the uterus which helps to 'shear' the placenta away from the attachment site.

- Skin to skin contact and the baby's attempts to feed at the breast further augment maternal oxytocin levels which will strengthen the uterine contractions.

9.1 Observations in the Third Stage of Labour

- The Midwife should monitor the general physical condition of a woman by observing her color, respirations and the woman's reports of how she feels.
- The Midwife must also observe the vaginal blood loss.
- In addition in the presence of hemorrhage, retained placenta or maternal collapse, frequent observations to assess the need for resuscitation are required. These should be documented on an intensive care chart which incorporates a modified early warning Obstetric score to detect the deteriorating woman.

9.2 Choice for Women during the Third Stage of Labour

It is important to discuss the woman's wishes for management of the third stage of labour. The ideal time to discuss options for management of the third stage is in the antenatal period to allow women to have time to make informed decisions. Health professionals should avoid basing their care on personal belief and experience. Although clinical experience is an important component of clinical decision making, it is only one component. The woman's circumstances, her preferences and best evidence also influence decision making.

9.2.1 Physiological Third Stage of Labour

NICE CG190 recommends that the third stage of labour should be managed actively unless specifically requested by the woman.

The midwife should discuss the benefits and risks of physiological versus active management and document on the labour notes.

If there are any risk factors for PPH the Midwife should inform the middle grade obstetrician and Labour Ward Co-ordinator about the woman's request for a physiological third stage.

Advantages of Physiological Management Include:

- A calm, quiet atmosphere, an opportunity for optimum skin to skin contact to help initiate breast feeding.
- Allows the woman's natural hormones to work without influence of further interventions.
- Reduced risk of headache, nausea, vomiting and hypertension.
- May slightly reduce the risk of having a manual removal of placenta.

Disadvantages of Physiological Management Include:

- Increased risk of PPH >1000mls (60% risk of PPH).
- Duration may be longer than active third stage.
- Women who are para 3 or more should be advised that they have an increased risk of post-partum haemorrhage and therefore active management of third stage is recommended.
- Midwives should be competent in both physiological and active management.
- Women at low risk of postpartum hemorrhage who request physiological management in the third stage should be supported in their choice.
- Women with risk factors for PPH should be advised of the increased risks and any discussions should be documented in the woman's notes.

9.2.2 Active Management of the Third Stage of Labour

Active management of the third stage involves a package of care comprising the following components:

- routine use of uterotonic drugs
- deferred clamping and cutting of the cord
- controlled cord traction after signs of separation of the placenta

Advantages of Active Management Include

- Reduced risk of PPH> 1000mls (RCOG state reduces risk of PPH by 60%)
- Reduced length of third stage.

Disadvantages of Active Management Include

- Increased nausea and vomiting
- Headache
- Increased BP when using ergometrine
- Slightly increased chance of requiring manual removal of placenta

9.3 Active Management of Third Stage Management Procedure

- Following delivery place the baby at uterus level on the mother's abdomen. The cord is left to pulsate for at least 3 minutes.
- Once cord pulsations have ceased the cord can be clamped and cut.
- Administer Syntometrine® (ergometrine 500 micrograms with oxytoxin 5IU) 1ml Intramuscular (IM)[3] or Syntocinon® (oxytocin) 10 units IM[4].

- Women with hypertension must not receive Syntometrine® or ergometrine but should be given a bolus of Syntocinon® (oxytocin) 10 units intramuscular[4] or 5 units intravenously[5] if requested by Obstetrician.

NOTE – IV bolus doses can cause severe maternal hypotension therefore if used for management of third stage give slowly, no more than 5 units at a time diluted in 5 – 10 mls Sodium Chloride 0.9% and given as slow infusion over 5 minutes. Use with caution in valvular heart disease.

- Wait for uterine contraction.
- Check that the bladder is empty. Encourage the woman to pass urine if needed.
- Await signs of separation including cord lengthening, sudden gush of blood loss and well contracted.
- Placenta and membranes can then be delivered by controlled cord traction (CCT).
- Patients with a significant risk of postpartum haemorrhage may receive 0.5 mg intravenous ergometrine[6], if not contraindicated instead of Syntometrine® or Syntocinon®.
- If after 10 minutes the uterus is well contracted but the placenta remains undelivered, re-check that the bladder is empty and repeat CCT. Put baby to breast if breast-feeding.
- If the placenta remains undelivered at 30 minutes, call for medical assistance if in Birth Centre. Arrange transfer to Labour ward from Birth Centre or home delivery (refer to retained placenta guideline).
- If abnormal blood loss should develop at any point during the third stage of labour, the cord should be clamped and cut immediately if not done so already. Medical assistance should be sought and follow management of PPH guidelines.
- Examination of placenta should take place by the Midwife following completed stage III.

9.4 Physiological Management of the Third Stage of Labour Procedure (for Low Risk Women If Requested)

- Physiological third stage is hands off at all times. Controlled cord traction and uterine massage are contraindicated and should not be practiced due to the risk of PPH and uterine inversion.
- Following delivery, place the baby at uterus level on the mother's abdomen, the cord is left to pulsate and is not clamped and cut until the placenta and membranes have delivered.
- If the baby requires resuscitation there is insufficient evidence for the optimum time for cord clamping and resuscitative measures should be undertaken as a priority. UK Resuscitation council guidelines

- NO utertonic drugs (e.g. oxytocin) are administered.
- Ensure bladder is empty and encourage the woman to pass urine if needed.
- Maintain skin to skin contact and facilitate breast feeding to commence (if this is feeding choice)
- Await signs of separation and for uterine contractions to recommence.
- Encourage the woman to adopt an upright position to allow gravity to aid descent of the placenta once separated. (e.g. squatting, kneeling)
- Allow the woman to push with her own urges when she feels a contraction. Observe for cord lengthening with pushes.
- Placenta and membranes are delivered with maternal effort alone.
- Once placenta and membranes delivered the cord can be clamped and cut.
- If the placenta has not delivered within 60 minutes following birth of baby the cord should be clamped and cut and active management commenced. The Obstetric team should be contacted.
- If the placenta has not delivered with a further 30 minutes of commencing active management then further medical advice should be sought. Follow retained placenta guidelines.
- If abnormal blood loss should occur at any point during the third stage of labour then the cord should be clamped and cut immediately and Syntometrine® (ergometrine 500micrograms and oxytocin 5IU) 1ml IM[3] (or Syntocinon® (oxytocin) 10 Units IM)[4] administered. Obstetric assistance should be sought and active management conducted. Follow PPH guidelines if necessary.

10. Delayed cord clamping

10.1 Advantages of Delayed Cord Clamping

- For healthy term infants delaying cord clamping for at least one minute or until the cord stops pulsating following delivery improves iron status through early infancy. When the cord is clamped immediately after birth approximately 25-60% of fetal blood volume remains within the placenta. This blood is known to be rich in hematopoietic stem cells. The risk of anaemia in the newborn and the infant (at 24 and 48 hrs after birth and at ages 2 -3 months) is decreased with delayed cord clamping.
- Delayed cord clamping allows the placenta to deliver oxygenated blood to the newly born infant during the initial period of the first few breaths when the dead space ventilation in the alveoli initially remain unexpanded until at least several effective breaths. This

allows for a much calmer transition from fetal to neonatal circulation.

- Delayed cord clamping also decreases the risk of fetal-maternal transfusion. Particular importance in rhesus negative women.
- For preterm babies in good condition at birth, delayed cord clamping for up to 3 minutes results in increased blood pressure during stabilisation, a lower incidence of intraventricular haemorrhage and fewer blood transfusions. However these babies were more likely to receive phototherapy.

10.2 Possible Disadvantages of Delayed Cord Clamping

- Polycythemia – is associated with late clamping compared early clamping. However infants in trials did not show any evidence of hyperviscosity syndrome and partial exchange transfusion were never required.
- Clinical Jaundice and the use of phototherapy. Some studies have found no increased risk of neonates developing raised serum bilirubin levels and requiring phototherapy following delayed cord clamping
- UK Resuscitation guidelines recommend delaying cord clamping for healthy infants for at least 1 minute and WHO (2014) states that placental transfusion was found to be complete at 3 minutes following birth when a baby is placed on its mother's abdomen. These babies may have blood volumes 32% higher than babies whose cord is clamped immediately after birth. Placental transfusion is quicker if baby is placed between mother's legs – within 1 minute, but this would impede skin to skin and initial bonding.

10.3 Cord Bloods

- When cord bloods are required following delivery, the cord does not need to be clamped and cut immediately. Allow at least 1 minute of delayed clamping or the practitioner can take cord bloods immediately following delivery whilst it is still pulsating and attached to the neonate
- There is no evidence to suggest that delayed cord clamping has no significant differences in maternal blood loss at delivery in comparison with early cord clamping.

11. Prevention of Retention of Swabs Following Vaginal Delivery

- The overriding principle is that all swabs, instruments and sharps must be accounted for at all times during any delivery. It is the responsibility of the professional conducting the delivery to be

accountable for the prevention of retention of swabs following vaginal delivery

- This process must be clearly documented within the woman's notes.

I. Packaging

- All swabs used during Delivery must have x-ray detectable markers fixed securely across the width of the swab.
- All swabs must be packed in bundles of five and be of a uniform size and weight. Checks should be made in multiples of five and recorded on the partogram/delivery notes in multiples of five.

II. Responsibility for Counts

- In normal circumstances, wherever possible, each count must be performed by two members of employees, one of whom must be a qualified Midwife or Obstetrician. The employees involved in the count procedure must be able to recognise and identify the instruments in use. However it is recognised that in the event of a rapid delivery it is not always possible for two employees to be present immediately prior to delivery and in these cases it is important that all packaging must be retained in order to facilitate a count being taken at the earliest opportunity.
- The health care professional conducting the delivery takes responsibility for ensuring that the count takes place before and after the delivery and that this is documented for each count on the Partogram/delivery notes and in the electronic patient records.
- If any items are to remain in the patient such as a vaginal pack this must be recorded in the woman's delivery notes, with a plan for removal. Removal of this item must also be documented on delivery notes.

III. Pre delivery Procedure

- The health care professional conducting the delivery is responsible for counting all X-ray detectable swabs, tampons, instruments and any needles that are required (for perineal infiltration or perineal suturing.)
- Any cotton wool balls that are present in a pack must be discarded immediately and not used at vaginal delivery due to risk of accidental insertion vaginally. Only a large swab may be used to clean the perineal area.
- Each swab should be opened out during counting and the attached tape should be checked that is securely fixed to the swab.

- Each swab should be checked to ensure that the radio-opaque strip is present.
- This swab count must be documented on the partogram/delivery notes.
- All red strings from swab bundles) should be kept on the lower shelf of the Delivery trolley, away from the working area until the final check is completed. This may be used as additional confirmation of a correct swab count.
- All packaging from swabs, instrument sets is also retained on the lower shelf until after the final count. Always record the actual number of swabs counted out. Bundles of 5 swabs must be recorded as "5". Any additional should be recorded as + "5".
- Sets of Delivery Instruments come as trays with instruments loosely contained which requires instrument identification for the count. The instruments should be identified against the check.
- Whenever possible, this initial count should be verified by another member of employees (in unison and counted aloud) and their name documented on the partogram/delivery notes. However it is recognised that in the event of a rapid delivery this may not be possible immediately prior to delivery and in these cases it is important that all packaging must be retained in order to facilitate a count being taken at the earliest opportunity.
- Any packets found to have an incorrect number of swabs, either more or less, should be removed from Theatre with their packaging to be investigated by the manufacturer and an Incident form completed.
- All needles are counted and documented. Keep all needles in packets until required for use. Keep all packets from needles until the final check is completed. DO NOT LEAVE NEEDLES FREE ON THE WORKING AREA. Once a needle has been used it should be safely secured using a Discard a pad until the final check.

IV. During Delivery

- If a blade, needle or instrument breaks during use, the employee responsible for the delivery must ensure that all pieces have been accounted for. Any instrument found to be damaged will compromise patient safety and therefore must be immediately taken out of use and labelled for repair. It may be necessary to inform the Sterile Supplies Department, the Manufactures and/or Medical & Healthcare products Regulatory Agency (MHRA) if an obvious fault is found with equipment. If appropriate, MHRA or the National Patient Safety Agency (NPSA) will issue a Hazard Warning or Safety Bulletin.
- All instruments must be placed back onto the HSDU delivery tray following use.

- All used swabs, and tampons must be placed in the runner bowl provided in each room until the final count is checked.
- Any additional swabs must be recorded on the partogram/delivery notes.
- All used needles should be placed securely on a sharps safety/disposal system e.g. discard a pad once used to minimize risk of sharps injury.
- No clinical waste should be removed from the Delivery room until the final swab; instrument and needle count is certified correct.
- Any swab/Bakri balloon kept intentionally to control bleeding, should be documented, handed over to the team and the patient had the band identifying what has been retained with the item documented on the band and dated. The band should be removed by the appropriate clinician, witnessed, documented in the woman's notes and the band removed and secured in the woman's notes.

12. References

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