Fetal Monitoring in Labour

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The latest approved version of this document is online.
If the review date has passed, please contact the Author for advice

Version Control

Version	Summary of Changes/Amendments	Issue Date
1	Initial Issue	31/01/2024

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ENGAGEMENT & CONSULTATION

Key Individuals/Groups Involved in Developing this Document

Role / Designation
Consultant Midwife/Interim Head of Midwifery

Circulated to the following for Consultation

Date	Role / Designation
02.11.2023	Powys Midwives
02.11.2023	Midwifery Leadership and Management Team
02.11.2023	Women and Children's Guidelines Group Members
02.11.2023	Safeguarding Team
02.11.2023	Link Obstetrician ABUHB, HDUHB, CTMUHB, SBUHB, BCUHB, SaTH, WVT

Date	Group Approved at
04.12.2023	Maternity Guidelines group
18.12.2023	Women & Children's Policies and Procedures Governance Group

Evidence Base
Please list any National Guidelines, Legislation or Health and Care Standards relating to this subject area? Fetal Monitoring in Labour (NICE, 2022) All Wales Midwifery-Led Care Guideline (Wales Maternity and Neonatal Network, 2022) All Wales Intrapartum Fetal Surveillance Standards (Wales Maternity and Neonatal Network, 2023)

IMPACT ASSESSMENTS

Equality Impact Assessment Summary					
	No impact	**Adverse**	**Differential**	**Positive**	**Statement** Please remember policy documents are published to both the **intranet** and **internet.** The version on the internet must be translated to Welsh.
Age	X				
Disability	X				
Gender reassignment	X				
Pregnancy and maternity	X				
Race	X				
Religion/ Belief	X				
Sex	X				
Sexual Orientation	X				
Marriage and civil partnership	X				
Welsh Language	X				
Human Rights	X				

Risk Assessment Summary
Have you identified any risks arising from the implementation of this policy / procedure / written control document? No risks identified.
Have you identified any Information Governance issues arising from the implementation of this policy / procedure / written control document? None.
Have you identified any training and / or resource implications as a result of implementing this? Introduction of new training programme, facilitated by Welsh Risk Pool.

1. Introduction to Fetal Monitoring in Labour Guideline

This guideline aims to outline the practice of intermittent auscultation in labour, within the midwifery-led environments of Powys. It will provide evidence-based information and guidance, as well as reference to national standards and documentation. Effective monitoring of the fetal heart, including the clinical picture in labour can assure us of fetal wellbeing as well as prompt intervention where it is considered necessary. In order to achieve improved outcomes for babies and their families, there is a need for all staff involved in intrapartum care to undertake regular, high-quality training.

Intermittent auscultation (IA) of the fetal heart (FH) in labour with a handheld doppler or Pinard stethoscope is recommended as the standard of care for all women who are healthy with uncomplicated pregnancies, regardless of birth setting (NICE, 2022; RCM, 2018; WHO, 2018).

The All-Wales Clinical Pathway for Normal Labour (AWCPNL) is the recommended documentation tool for midwifery-led care births.

Powys will adhere to the mandated All Wales Intrapartum Fetal Surveillance Standards (Wales Maternity & Neonatal Network, 2023) APPENDIX B which outline a standardised approach to practice and high quality training in Wales. In addition, we will be opting into Welsh Risk Pool's annual Intrapartum Fetal Monitoring training programme to support achieving these standards.

2. Aim and Objective

- To give guidance to all midwives on the process of intermittent auscultation (IA) of the fetal heart in labour.
- This guideline should be used in conjunction with the All-Wales Clinical Pathway for Normal Labour (AWCPNL).
- The aim of IA is the timely identification of babies with hypoxia/acidosis to enable appropriate action before the occurrence of injury.
- In the absence of risk factors for fetal hypoxia or acidosis IA is the recommended method of fetal monitoring; regardless of birth setting.
- IA facilitates the normal physiology of labour by enabling freedom of movement.
- Effective IA enables the detection of potential fetal compromise; timely intervention can prevent perinatal & neonatal morbidity and mortality. IA is not reliable for assessing fetal wellbeing if the fetus is already compromised.
- There is currently no high-quality evidence to recommend any particular frequency and duration of IA. IA in accordance with RCM & NICE guidelines is accepted as the gold standard within the UK. Additional methods, such as the Oxford proposed '15 second counting' method, are available and if preferred by the individual, can be incorporated.

3. Definitions

- **AWCPNL** – All Wales Care Pathway for Normal Labour
- **CEFM** – Continuous electronic fetal monitoring
- **CTG** - Cardiotocograph
- **FH –** Fetal Heart
- **IA** - Intermittent Auscultation
- **OU –** Obstetric Unit
- **MLC**- Midwifery-led care
- **MDT**- Multi disciplinary team
- **PTHB** – Powys Teaching Health Board

4. Responsibilities

4.1 Head of Midwifery and Sexual Health

The Head of Midwifery and Sexual Health must:

- Ensure all staff read and understand this guideline
- Arrange regular review to monitor compliance with this guideline

4.2 Assistant Head of Midwifery and Sexual Health Services

The Assistant Head of Midwifery and Sexual Health Services has responsibility for:

- Ensuring dissemination of this document to all relevant staff

4.3 Band 7 operational team lead (OTL)

The OTL has responsibility for:

- Ensuring compliance with this document by the teams that they manage

4.4 Consultant Midwife

The consultant midwife has responsibility for:

- Supporting implementation of this document
- Reviewing any new evidence or guidance that is produced that may influence the service
- Communicating any key changes in advice that might influence service provision to the Midwifery Leadership and Management team for consideration.
- Being available in an advisory capacity related to care outside of guidance

4.5 Women and Children's Risk and Governance Lead

The Women and Children's Risk and Governance Lead has responsibility for:

- Monitoring review of incidents in relation to the content of this document

4.6 All Staff working within maternity services

All staff working the maternity services have responsibility for:

- Reading and being familiar with contents of this document
- Referring women appropriately for additional care where required
- Working to the requirements of their role within the scope of this guideline

5. Inclusion Criteria

- Intermittent auscultation (IA) of the fetal heart (FH) in labour with a handheld doppler or Pinard stethoscope is recommended as the standard of care for all women who are healthy with uncomplicated pregnancies, regardless of birth setting (NICE, 2023; NICE, 2022; RCM, 2018; WHO, 2018). CTG monitoring in labour is not offered within the midwifery-led birth settings of Powys.

- Refer to the 'Fetal Monitoring in Labour' Guideline (NICE, 2022) for recommendations around indications for continuous cardiotocography monitoring in labour.

- The AWCPNL document must be used for all women suitable for midwifery led care. This includes the initial assessment(s) of labour, as well as care in active labour.

- Continuous electronic fetal monitoring (CEFM) in women without additional complexities is associated with an increased rate of caesarean birth and birth with forceps/ventouse, without any improvement in perinatal outcome (Maude et al., 2014). If a woman chooses not to be monitored by the recommended method a full discussion of the potential impact on her and the fetus should be undertaken and documented.

- It is important to recognise the transition between the stages of labour in order to perform the recommended intervals of auscultation according to the stage of labour (Each Baby Counts, 2015).

N.B. *If using a handheld doppler do not rely on the range shown on the screen, as there have been instances where the machine has miscalculated the FH rate (MHRA, 2010).*

Midwives must provide women with the information and support they need to make decisions about their care and must respect the decisions that women make (RCM. 2022b). Discuss fetal monitoring options available, facilitating a full evidence-based discussion, explaining best available research evidence or professional option in the absence of research. Ensure understanding of different care models, including the fetal monitoring options available in different birth settings.

Support a woman's choice about the method of fetal monitoring during labour. Refer to MAT 079 'Informed Choice, Personalised Care and Care of Women Making Choice Outside of Recommended Guidelines' where IA is chosen

outside of the recommendations for CTG monitoring.

6. Intermittent Auscultation

Fetal heart rate monitoring is a tool to provide guidance on fetal condition, and not a standalone diagnostic tool. The findings from monitoring need to be looked at together with the developing clinical picture for both woman and baby (NICE, 2022).

Include a holistic consideration of the full clinical picture as part of your assessment of fetal wellbeing, maternal observations, frequency, strength and duration of contractions, liquor, vaginal loss, progress of labour, any antenatal and/or emerging risk factors. Include review of the mother's wellbeing and discuss any recommendations for care with her.

Document the hourly holistic review as indicated on the Partogram in the AWCPNL. Use of the acronym 'CARES' as recommended in the AWCPNL can be used as a prompt.

Pre-Labour Assessments

Please refer to APPENDIX A for the 'Part 2' Initial Assessment(s) of maternal and fetal suitability for midwifery-led care and intermittent auscultation.

- Any assessments using the AWCPNL should be made in conjunction with antenatal risk factors, previous birth planning and history, as well as the current presenting maternal and fetal assessment.

- Complete a 'Part 2' Initial Assessment at **every pre-labour** assessment.

- Irrespective of any previous birth planning, this assessment will lead to a recommendation for:
    - The appropriate birth setting
    - The appropriate lead professional
    - The appropriate fetal monitoring method

- NICE (2023) recommends a labour assessment should comprise of one-to-one midwifery care for at least 1 hour.

- An abdominal palpation will determine the optimal position for auscultation. Assess the strength and frequency of contractions; tachysystole (more than 5 contractions in 10 minutes) requires further

evaluation (NICE, 2022).

- Variability cannot be assessed using IA.

- The maternal pulse should be palpated simultaneously while auscultating the FH to differentiate between the two heart rates, as it is possible to inadvertently pick up the maternal heart rate from surrounding vessels. This should be done in accordance with the AWCPNL, and if a FH abnormality is suspected.

- A normal baseline rate, absence of decelerations, presence of accelerations with associated fetal movements excludes chronic hypoxia. Accelerations and fetal movements are a reassuring sign of fetal wellbeing and should be expected **when not in established labour.**

- If after a full assessment, having spent at least 1 hour, there remains the absence of fetal movements and associated accelerations, and the woman is not in established labour, document as a variance.

- Recommend IA as the method of fetal monitoring during labour where no abnormalities exist (see APPENDIX C). Where concerns arise following the initial assessment, document as a variance with a clearly documented and communicated plan of care.

1st Stage of Labour

- Use 'Part 3' of the AWNLCP to document intermittent auscultation.

- Offer auscultation immediately after the end of a palpated contraction, for at least one minute, at least every 15 minutes throughout the 1st stage of labour and record as a single dot on the partogram.

- If, on intermittent auscultation, there is an increase in the fetal heart rate of 20bpm (as plotted on the partogram) from the start of labour, or a deceleration is heard please document as a variance and take action as below:
    - Increase frequency of auscultation e.g. Auscultate immediately following the next 3 palpated consecutive contractions.
    - Identify possible cause, such as maternal position, fetal movements, vaginal examination, hydration, pool temperature

- Review the whole clinical picture including antenatal and existing or new intrapartum risk factors, maternal observations, contraction frequency (including hypertonus) and the progress of labour.
- If abnormality confirmed or there is uncertainty recommend continuous electronic fetal monitoring and transfer to obstetric-led care, providing it is safe and appropriate to do so. Communicate and explain clearly to the woman why this is recommended, and the implications for her choice of type and place of care.

- Decelerations
  If a deceleration is heard:

  - Carry out IA more frequently (for example, after 3 consecutive contractions)

  - If no repetitive decelerations auscultated revert back to at least 15 minutely auscultations and document your plan as a variance.

  - If fetal heart rate concerns are confirmed summon help, advise continuous CTG monitoring and recommend transfer to obstetric-led care, providing it is safe and appropriate to do so. Communicate and explain clearly to the woman why this is recommended, and the implications for her choice of type and place of care.

- Accelerations - Document accelerations and fetal movements if heard/felt. These are reassuring signs of fetal wellbeing.

- Overshoots - Listen for repetitive, exaggerated accelerations immediately after a contraction. If confirmed, recommend CTG monitoring.

- Maternal pulse - Palpate simultaneously while auscultating the FH to differentiate between the two heart rates. Document hourly or more often if concerns.

2nd Stage of Labour

The second stage of labour has increased demand on oxygen supply to the fetus. For this reason, the identification of the transition into this stage is important, so that the appropriate level of fetal monitoring can be performed (RCOG, 2017).

Once the woman has signs of or is in confirmed second stage of labour change the frequency of fetal heart auscultation as below:

- Offer auscultation immediately after the end of a palpated contraction, for at least one minute, at least every 5 minutes throughout the 2nd stage of labour and record as a single dot on the partogram.

  Document as a variance and act on a rising or unstable baseline rate, decelerations and overshoots and any other identified risk factors as outlined in the '1st stage of labour' section.

- Palpate maternal pulse simultaneously during each IA to differentiate between maternal and fetal heart rates and document hourly. Descent of the fetal head, with increased maternal heart rate increases the likelihood of hearing the maternal pulse.

- Identify the time of increased frequency of intermittent auscultation to at least 5 minutely by drawing a clear vertical line on the partogram.

- Confirmation of an abnormality warrants action and a recommendation for CEFM in an obstetric setting (as outlined in Section 6 - 1st stage of labour)

If at any time there is difficulty auscultating the FH as frequently as required, seek help in order to do so, and recommend transfer to the nearest obstetric unit.

7. Conversion criteria for changing from IA to CEFM

Refer to Appendix C for 'Indications for Conversion to Continuous Cardiotography', (NICE, 2022).

- During the course of pregnancy and labour the clinical circumstances may change. Recommend continuous electronic fetal monitoring (CEFM) if FH abnormalities are identified or further risk factors develop **(see APPENDIX C).** These may be in addition to those already identified where CEFM would be advised (NICE, 2022).

- Carry out a full assessment of the women and her baby every hour as per the AWCPNL. Include:

  - Maternal antenatal risk factors for fetal compromise
  - Fetal antenatal risk factors for fetal compromise
  - new or developing intrapartum risk factors
  - Progress in labour including frequency, length, and strength of contractions
  - Fetal heart rate monitoring changes.

- Where CEFM is recommended the rationale should be discussed with the woman, her consent obtained, and all actions documented in the notes. If CEFM is declined, the potential risks should be explained, and the Operational Team Lead informed. All discussions must be clearly documented, and the woman supported in her choice.

- Provided it is safe and appropriate, transfer the women to the obstetric unit for obstetric review. Recommend a lateral position during ambulance transfer for fetal heart rate concerns. Complete the 'Exiting the Pathway' SBAR on p.23 of the AWCPNL.

8. Education and Training

Please refer to APPENDIX B 'All Wales Intrapartum Fetal Surveillance Standards'

The Intrapartum Fetal Surveillance Standards in Wales (2023) require annual training compliance. We will meet these standards by:

- Powys Midwives to attend an annual out of county multidisciplinary fetal monitoring full day training. This will be facilitated by the National IFS Welsh Risk Pool Co-ordinated Programme.

- Completion of the e-learning for healthcare (e-lfh) Intelligent Intermittent Auscultation in Labour module. Accessible at: www.e-lfh.org.uk . In line with the IFS Standards, there is no requirement to successfully complete the assessment.

- 6 Case Reflections
  Two of these will be incorporated into the full day training programme and one counted as part of the IA e-learning module. The remaining 3 will be achieved through clinical supervision, team meetings and mandatory training days.

9. Monitoring Compliance, Audit & Review

An audit of 10% of records will be conducted within the first year of ratification to assess adherence to the standards contained within this guideline through the annual record keeping guideline. In addition, all transfers out of Powys in are reviewed on an individual basis through Datix incident reporting with general oversight of themes reviewed on a weekly basis.

This document will be reviewed every three years or earlier should audit results or changes to legislation, guideline or practice within PTHB indicate otherwise.

10. References / Bibliography

National Institute for Health and Care Excellence. (2022). *Fetal Monitoring in Labour, NG229.* Available at: https://www.nice.org.uk/guidance/ng229

National Institute for Health and Care Excellence. (2023). *Intrapartum Care, NG235.* Available at: https://www.nice.org.uk/guidance/ng235

Royal College of Obstetricians and Gynaecologists. 2017. *Each Baby Counts Report.* London: RCOG.

Wales Maternity and Neonatal Network. (2022). *All Wales Midwifery-Led Care Guideline.* Available at wisdom.nhs.wales/all-wales-guidelines/all-wales-guidelines/all-wales-midwifery-led-care-guideline-2022/

Wales Maternity and Neonatal Network. (2023). *All Wales Intrapartum Fetal Surveillance Standards*. Available at: https://wisdom.nhs.wales/all-wales-guidelines/all-wales-guidelines/all-wales-intrapartum-fetal-surveillance-standards-v2-july-2023-pdf1/

APPENDIX A – All Wales Clinical Pathway for Normal Labour (2023)

All Wales Clinical Pathway for Normal Labour

Part Two - Initial Assessment

Initials	Name (print)	Designation	Care commenced Date/Time	Care ceased Date/Time

Summary of telephone calls (if part one available)

Date & Time of call	Reason for call	Advice given

		Date ..... Time ..... 1st Assessment		Date ..... Time ..... 2nd Assessment		Date ..... Time ..... 3rd Assessment		Date ..... Time ..... 4th Assessment	
	Please initial to confirm each area of assessment								
	INITIAL ASSESSMENT: Spend time with the woman as part of your assessment, offering support. Use this time to evaluate fetal wellbeing including fetal movements and accelerations.								
Code	**ANTENATAL - MATERNAL FACTORS**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
A1	Gestation 37+0 - 41+6								
A2	Nulliparous or uncomplicated obstetric history in previous pregnancy								
A3	Absence of maternal disease that affects childbearing								
A4	Prior to onset of labour deemed to be suitable for midwifery-led care								
	ANTENATAL - FETAL FACTORS								
A5	Singleton pregnancy								

This pathway uses the terms 'woman' or 'women' throughout. These should be taken to include people who do not identify as women but are pregnant or have given birth. Similarly, where the term 'parents' is used, this should be taken to include anyone who has main responsibility for caring for a baby. It is recognised that there are many different family arrangements.

Please initial to confirm each area of assessment		Date ..... Time ..... 1st Assessment		Date ..... Time ..... 2nd Assessment		Date ..... Time ..... 3rd Assessment		Date ..... Time ..... 4th Assessment	
		Yes	No	Yes	No	Yes	No	Yes	No
A6	Cephalic presentation								
A7	Antenatal surveillance has shown good growth velocity which is >10th centile								
A8	Placenta outside of lower segment								
A9	If pre-labour rupture of membranes was this less than 24 hours ago								
A10	Vaginal Loss: clear, milky or light pink with the absence of significant meconium (where meconium is present, consider the character and discuss with the woman as per L21 pg11)								
	Initial Assessment of Fetal Wellbeing - Intermittent Auscultation of the Fetal Heart Rate								
A11	FHR Monitoring: Pinard or hand held doppler (if continuous EFM indicated exit the pathway)								
A12	Fetal Movements: Have all assessments regarding reduced fetal movements in your pregnancy been reassuring (if applicable) (Past reduced fetal movements, including any ongoing plans should form part of the overall risk assessment)								
A13	Fetal Movements: Has your baby been moving in its usual pattern in the 24 hours before onset of regular contractions? (normal will be individual for each woman)								
A14	Fetal Movements Palpated: If baby is not active during initial assessment, take opportunity during abdominal/scalp stimulation and document in D6/D10								
A15	Accelerations: Auscultate the fetal heart during fetal movements. Are accelerations heard? If baby is not active during initial assessment, take opportunity during abdominal/scalp stimulation and document in D6/D10								
A16	Baseline Rate: Auscultate the fetal heart between contractions when the fetus is at rest. Lower baseline fetal heart rates are expected with post-term preganancies (Consider previous assessments, if available) (Record as a single figure) (110-160 beats per minute)	Baseline: _____		Baseline: _____		Baseline: _____		Baseline: _____	
A17	Decelerations: Auscultate the fetal heart immediately after a contraction. Are decelerations absent? (if decelerations/overshoots present exit the pathway) (regular accelerations heard immediately after a contraction may indicate overshoot, this is an abnormal feature of the fetal heart, exiting the pathway should be considered)								
A18	Maternal pulse taken concurrently with fetal heart, what are the 2 rates and is there a clear difference between them? (If not a clear difference exit the pathway)	Maternal: FHR:		Maternal: FHR:		Maternal: FHR:		Maternal: FHR:	

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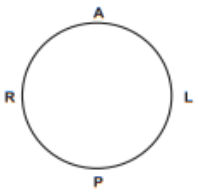
Labour Assessment

Place of assessment Home AMU FMU OU

Assessment Number	Number of vaginal examinations prior to this assessment			
Completed by (print name):		Date:	Time:	Initials:

D1 Maternal Examination	**Blood Pressure:** <90mmHg diastolic <140 systolic	**Pulse:** <100 beats/minute	**Temperature:** <37.5℃ >35.9℃	**Respiration Rate:** >10 <21
D2 Rate of contractions	>2:10: <5:10			
D3 Palpated strength of contraction	Moderate/strong			
D4 Length of contraction	>30 Seconds- ≤60 seconds			
D5 Abdominal Palpation				
Fundal height	SFH within 2 weeks Yes ☐ No ☐	Serial USS Yes ☐ No ☐	SFH (if indicated) cm	
Lie		Presentation		
Position		Palpable above the brim	/5ths	
D6 Fetal heart auscultation (listened to after palpated contraction for a period of at least one minute)	(110 - 160 beats per minute)			

D7 Cervix	verbal consent for VE obtained ☐	**D9**	**Position to be completed**
External Genitalia			
Position			
Effacement			
Application			
Dilatation	cms		



Defined position .....

D8 Membranes	Intact ☐ Ruptured ☐	> 24 hours ☐	< 24 hours ☐
Liquor	Nil ☐ Clear ☐ Pink ☐ Blood stained ☐	Meconium stained liquor ☐	
Presentation	Cephalic ☐ Breech ☐		
Station	-3 ☐ -2 ☐ -1 ☐ 0 ☐ +1 ☐ +2 ☐ (in relation to ischial spines)	**Caput**	Yes ☐ No ☐ Moulding: Nil ☐ ++ ☐ +++ ☐

D10 Post VE fetal heart auscultation (listened to after palpated contraction for a period of at least one minute)	(110 - 160 beats per minute)	Where there is an absence of fetal movements and associated accelerations following the full assessment, document as a variance if not in established labour along with the agreed ongoing plan, giving consideration to the full holistic assessment and time spent with the woman.	
	Presence of accelerations Yes ☐ No ☐	Fetal movements felt during assessment? Yes ☐ No ☐	

D11 Bladder Care	Spontaneous void ☐	Urinalysis NAD: ☐	Other:
	Not passed urine ☐	Time of last void:	hrs
D12 Variance	Yes ☐ No ☐	Any variance and action(s) taken documented	Initials:

Code	Advice	Yes	No
D13	In active labour?		
D14	Overall assessment confirms suitability for intermittent auscultation during labour		
D15	Continue with part three?		
D16	Is woman going home or remaining at home?		

Additional documentation to be completed on page 8

Appendix B – All Wales Intrapartum Fetal Surveillance Standards
(Wales Maternity and Neonatal Network, 2023).

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Wales Maternity and Neonatal Network

All Wales Intrapartum Fetal Surveillance Standards

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Introduction

Effective fetal monitoring in labour and prompt intervention when needed is essential in reducing the number of stillbirths in Wales. There is also a need to reduce avoidable fetal harm such as hypoxic ischemic encephalopathy, as well as minimise unnecessary intervention. In order to achieve improved outcomes for babies and their families, there is a need for all staff involved in intrapartum care to undertake regular, high quality training.

In 2016, a recommendation from an all-Wales expert reference group was that the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists (RCM/RCOG) online electronic package did not satisfy the training requirements for midwives and obstetricians within Wales.
In response, in 2018, the Wales Maternity Network together with an all-Wales expert reference group developed standards for electronic fetal monitoring (EFM) and intermittent auscultation (IA), within the context of intrapartum fetal surveillance.

The Standards have been mandated since 2018, yet there remains variation in practice throughout NHS Wales. These Standards have been updated by the Wales Maternity & Neonatal Guideline Group in order to support a standardised approach to practice and high quality training and have considered the views of colleagues across NHS Wales maternity services.

These Intrapartum Fetal Surveillance Standards represent a consensus which were updated and ratified during July 2023.

Intrapartum Fetal Surveillance Standards for Wales

1	Intermittent Auscultation (IA) should be offered to all women who meet the criteria following an appropriate risk assessment, regardless of birth setting.[1]
2	CTG interpretation throughout NHS Wales should be based on robust understanding of physiology of mother and baby in labour and any of the standard interpretation guidelines for example NICE[2], FIGO[3], or Physiological could be adopted as per preference of the Health Board.
3	Training in IA, CTG (or ST analysis [STAN] where used) should be equitable for all midwives and obstetric clinicians practicing within NHS Wales.
4	All midwives and obstetric doctors should attend a full day of multidisciplinary fetal monitoring training annually[4]. The study day should incorporate: • Fetal physiology in labour • IA • CTG interpretation (and STAN where used) • Maternal co-morbidities • Existing and evolving maternal and fetal risk factors for example, prematurity, meconium, pyrexia, infection, duration of membrane rupture and fetal growth restriction • A standardised approach to documentation of the hourly holistic review and the 'fresh eyes' review • Use of the All Wales Clinical Pathway for Normal Labour when using IA • The impact of human factors including situational awareness, teamworking, communication and escalation All midwives who use IA should complete an additional e-learning training package on IA. An example of a package which may be considered is the eLearning for Healthcare (e-lfh) Intelligent Intermittent Auscultation in Labour.[5] The IA e-learning package can be undertaken in lieu of one local reflection/teaching session (as per standard 5). ***Please note**: These Standards do not recommend one IA counting technique over another.*
5	All midwives and doctors should participate in the review of 6 cases via local education sessions on fetal surveillance (including CTG and IA) annually. This should be made up of local Health Board multidisciplinary reflection/teaching sessions.[4] Where appropriate antenatal CTGs may be included. These sessions should follow a standardised format to ensure a quality learning experience with a focus on multi-professional reflection and discussion. Good practice would be that all obstetric units should aim to provide these sessions weekly. Reflective discussion in the clinical area is regarded as good practice and should be encouraged.
6	The midwife caring for a woman in labour using CTG should perform and document a full holistic risk assessment at least hourly with 'fresh eyes' performed ideally within 1 hour or a maximum of 2 hours (or sooner if any concerns). The assessment must include documentation on: Reason for CTG Maternal: Evolving risk factors, contractions, pulse, progress in labour Fetal: Evolving risk factors, gestation, liquor, baseline FHR, variability, accelerations, decelerations, and presence of cycling. The baseline should be appropriate for gestation and compared to a previous CTG to appreciate any rise in baseline (antenatal if available, or onset of labour) Decision: Classification of CTG and action taken Review: Date and time of review, signature, and status of both reviewers. It should specify if reviewers agree with provision of escalation or the seeking of a senior review in the case of disagreement or uncertainty Women receiving IA should have an hourly holistic assessment (or sooner if clinical situation evolves) as per the All Wales Clinical Pathway for Normal Labour, and this should be clearly documented.

References

1. Royal College of Midwives. *Evidence Based Guidelines for Midwifery–Led Care in Labour, Intermittent Auscultation*. 2012. evidence-based-guidelines-intermittent-auscultation.pdf (rcm.org.uk)

2. National Institute for Health and Care Excellence [NICE]. *Fetal monitoring in labour NICE guideline* [NG229]. 2022. Recommendations | Fetal monitoring in labour | Guidance | NICE

3. Ayres-de-Campos D, Spong CY, Chandraharan E, for the FIGO Intrapartum Fetal Monitoring Expert Consensus Panel. FIGO Consensus Guidelines on Intrapartum Fetal Monitoring: Cardiotocography. *International Journal for Gynaecology and Obstetrics.* 2015;131:13-24. FIGO consensus guidelines on intrapartum fetal monitoring: Cardiotocography (europerinatal.eu)

4. Saving Babies Lives Care Bundle Version 3. NHS England. 2023. NHS England » Saving babies' lives: version 3

5. eLearning for Healthcare. *Intelligent Intermittent Auscultation in Labour.* Intelligent Intermittent Auscultation in Labour - elearning for healthcare (e-lfh.org.uk) [Accessed 24th October 2022].

6. Royal College of Obstetricians and Gynaecologists. *Each baby counts: 2015 full report.* 2017. Each Baby Counts 2015 full report (rcog.org.uk)

Appendix C – Indications for Continuous Cardiotocography Monitoring in Labour (NICE, 2022)

- Offer continuous cardiotocography (CTG) monitoring to women in labour if it is in their personalized care plan.
- Offer continuous CTG monitoring for women in labour who have any of the following antenatal maternal risk factors:

Antenatal risk factors

1.3.1 Offer continuous cardiotocography (CTG) monitoring to women in labour if it is in their personalised care plan. **[2022]**

1.3.2 Offer continuous CTG monitoring for women in labour who have any of the following antenatal maternal risk factors:

- previous caesarean birth or other full thickness uterine scar
- any hypertensive disorder needing medication
- prolonged ruptured membranes (but women who are already in established labour at 24 hours after their membranes ruptured do not need CTG unless there are other concerns)
- any vaginal blood loss other than a show
- suspected chorioamnionitis or maternal sepsis
- pre-existing diabetes (type 1 or type 2) and gestational diabetes requiring medication. **[2014, amended 2022]**

1.3.3 Offer continuous CTG monitoring for women in labour who have any of the following antenatal fetal risk factors:

- non-cephalic presentation (including breech, transverse, oblique and cord), including while a decision is made about mode of birth
- fetal growth restriction (estimated fetal weight below 3rd centile)
- small for gestational age (estimated fetal weight below 10th centile) with other high-risk features such as abnormal doppler scan results, reduced liquor volume or reduced growth velocity
- advanced gestational age (more than 42+0 weeks at the onset of established labour)
- anhydramnios or polyhydramnios
- reduced fetal movements in the 24 hours before the onset of regular contractions. **[2014, amended 2022]**

1.3.4 Consider continuous CTG monitoring if, based on clinical assessment and multidisciplinary review, there are concerns about other antenatal factors not listed above that may lead to fetal compromise. **[2022]**

Ongoing risk assessment

1.3.5 Carry out a full assessment of the woman and her baby every hour. At each assessment include:

- maternal antenatal risk factors for fetal compromise
- fetal antenatal risk factors for fetal compromise
- new or developing intrapartum risk factors

  progress in labour including characteristics of contractions (frequency, strength and duration)
- fetal heart rate monitoring, including changes to the fetal heart rate pattern.

  Discuss with the woman any changes identified since the last review, and the implications of these changes. Include birthing companion(s) in these discussions if appropriate and if that is what the woman wants. **[2017, amended 2022]**

1.3.6 Obtain an in-person review of every hourly assessment (see recommendation 1.3.5) by another clinician ("fresh eyes") for women on CTG, to be completed before the next assessment takes place. **[2022]**

Intrapartum risk factors

1.3.7 Be aware that intrapartum risk factors may increase the risk of fetal compromise, and that intrapartum risk factors that develop as labour progresses are particularly concerning. **[2022]**

1.3.8 Offer continuous CTG monitoring for women who have or develop any of the following new intrapartum risk factors:

- contractions that last longer than 2 minutes, or 5 or more contractions in 10 minutes
- the presence meconium (see the section on the presence of meconium)
- maternal pyrexia (a temperature of 38°C or above on a single reading or 37.5°C or above on 2 consecutive occasions 1 hour apart). See the section on preventing early-onset neonatal infection before birth in the NICE guideline on neonatal infection: antibiotics for prevention and treatment
- suspected chorioamnionitis or sepsis (see the section on preventing earlyonset neonatal infection before birth in the NICE guideline on neonatal infection: antibiotics for prevention and treatment)
- pain reported by the woman that appears, based on her description or her previous experience, to differ from the pain normally associated with contractions

  fresh vaginal bleeding that develops in labour
- blood-stained liquor not associated with vaginal examination, that is likely to be uterine in origin (and may indicate suspected antepartum haemorrhage)
- maternal pulse over 120 beats a minute on 2 occasions 30 minutes apart
- severe hypertension (a single reading of either systolic blood pressure of 160 mmHg or more or diastolic blood pressure of 110 mmHg or more, measured between contractions)
- hypertension (either systolic blood pressure of 140 mmHg or more or diastolic blood pressure of 90 mmHg or more on 2 consecutive readings taken
  30 minutes apart, measured between contractions)
- a reading of 2+ of protein on urinalysis and a single reading of either raised systolic blood pressure (140 mmHg or more) or raised diastolic blood pressure (90 mmHg or more)
- confirmed delay in the first or second stage of labour (see the NICE guideline on intrapartum care for healthy women and babies)
- insertion of regional analgesia (for example, an epidural)

- use of oxytocin. **[2017, amended 2022]**

1.3.9 Consider continuous CTG monitoring if, based on clinical assessment and multidisciplinary review, there are concerns about other intrapartum factors not listed above that may lead to fetal compromise. **[2022]**

Presence of meconium

1.3.10 When assessing risk at any time during labour, be aware that the presence of meconium:

- can indicate possible fetal compromise, **and**
- may lead to complications, such as meconium aspiration syndrome. **[2022]**

1.3.11 Consider the character of the meconium as part of the overall clinical assessment, in conjunction with other antenatal or intrapartum risk factors, and discuss the option of CTG monitoring with the woman.