

WELSH HEALTH CIRCULAR



Llywodraeth Cymru
Welsh Government

Issue Date: 28 November 2018

STATUS: COMPLIANCE

CATEGORY: STANDARDS

Title: Implementation of All Wales Intrapartum Fetal Surveillance Standards for Maternity Services

Date of Review: November 2020

For Action by:

Chief Executives Health Boards
Directors of Nursing Health Boards
Medical Directors Health Boards
Heads of Midwifery Health Boards
Clinical Directors (Maternity)

Action required by:

That the standards be adopted immediately.

Sender: Professor Jean White – Chief Nursing Officer

HSSG Welsh Government Contact(s) :

*Karen Jewell – Nursing Officer (Maternity and Early Years), CNO Office , Welsh Government,
Cathays Park, Cardiff CF10 3NQ
Tel: 03000 255218 e-mail: Karen.jewell@gov.wales*

Enclosure(s): All Wales Intrapartum Fetal Surveillance Standards



Llywodraeth Cymru
Welsh Government

Dear Colleagues

I am writing to you to set out the new intrapartum fetal surveillance standards that have been developed by clinicians in Wales. I ask that you ensure that these standards are adopted across maternity services for women receiving intrapartum care effective immediately.

Background

In response to concerns raised by the midwifery and obstetric community across Wales, the Wales Maternity Network held a multi-professional meeting in October 2016, to consider best practice for intrapartum fetal surveillance, including cardiotocography training (CTG).

The recommendation from the All Wales Expert Reference Group was that the current position in relation to the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists (RCM/RCOG) online electronic package no longer satisfied the training requirements for midwives and obstetricians within Wales.

With recognition of the importance of fetal wellbeing assessment and practice standards, the Chief Nursing Officer requested that the Maternity Network lead work to produce Welsh standards for fetal surveillance practices and training. The Wales Maternity Network, together with the All Wales Expert Reference Group, held a meeting in May 2018, with representation from all Health Boards within Wales to develop a consensus view of the future of CTG training within the context of intrapartum fetal surveillance. The All Wales Intrapartum Fetal Surveillance Standards represent the consensus position reached.

Engagement

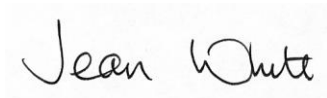
There has been wide engagement including Heads of Midwifery, the Women's Health National Specialist Advisory Group (NSAG), Welsh Risk Pool, Royal College of Midwives and Royal College of Obstetricians and Gynaecologists.

Monitoring and Evaluation of standards

Health Boards will be expected to fully implement standards and report compliance at annual maternity performance boards providing assurance to Welsh Government, beginning in 2019.

I would like to thank the Maternity Network and those involved in the development of these standards.

Yours sincerely

A handwritten signature in black ink that reads "Jean White". The signature is written in a cursive style with a large 'J' and 'W'.

Professor Jean White CBE
Chief Nursing Officer
Nurse Director NHS Wales



WALES MATERNITY NETWORK

All Wales Intrapartum Fetal Surveillance Standards



Lead Authors:

Wales Maternity Network Clinical Lead: Dr Claire Francis
Wales Maternity Network Manager: Claire Davies

Co-authors:

Wales Maternity Network: All Wales Expert Reference Group

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Rhwydwaith Mamolaeth
Cymru
Wales Maternity
Network



Cydweithrediad
Iechyd GIG Cymru
NHS Wales Health
Collaborative



Introduction

In response to concerns raised by the Midwifery and Obstetric community across Wales, the Wales Maternity Network held a multi-professional meeting in October 2016, to consider best practice for intra-partum fetal surveillance, including cardiotocography training (CTG).

The recommendation from the All Wales Expert Reference Group was that the current position in relation to the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists (RCM/RCOG) online electronic package, no longer satisfied the training requirements for Midwives and Obstetricians within Wales.

The introduction of multi-professional training during 2018 for the recognition and response to obstetric emergencies, has been supported by the Wales Maternity Network and funded by the Welsh Risk Pool. This training incorporates and complements CTG learning by all grades of clinical staff.

The Wales Maternity Network together with the All Wales Expert Reference Group held a further meeting in May 2018, with representation from all Health Boards within Wales to develop a consensus view of the future of CTG training, with the context of intrapartum fetal surveillance.

The following standards represent the consensus:



Professor Jean White
CHIEF NURSING OFFICER
FOR WALES

Intrapartum Fetal Surveillance Standards for Wales

- 1 All low risk women should be recommended intermittent auscultation (1)
- 2 Cardiotocography interpretation throughout Wales is to be based on the Federation of International Gynaecology and Obstetrics classification system (FIGO) (2)
- 3 Training in intermittent auscultation, CTG or STAN, (where used), should be equitable for all midwives and clinicians practicing within Wales.
- 4 All professionals providing intrapartum care will attend an annual whole day (or equivalent to 6 hours) teaching seminar on fetal physiology in labour, discussion of the principles underlying intermittent auscultation, CTG interpretation (and STAN) together with an understanding of the maternal and fetal risk factors.

This will include maternal and co-morbidities, pyrexia, infection, fetal growth restriction, prematurity and the significance of meconium. This seminar should allow for discussion of clinical cases.
- 5 All obstetric units must provide a weekly clinical meeting for the multi-professional discussion of clinical cases involving CTG (or STAN) interpretation.
- 6 All women requiring continuous electronic fetal monitoring must undergo a regular assessment with additional fresh eyes and clear documentation of findings. This review will be performed by the midwife responsible for care and fresh eyes undertaken by another midwife or obstetrician (ST3 or above) within a maximum period of two hours. The assessment of maternal and fetal risk factors must include documentation on:

Maternal: Contractions, Maternal Pulse, Cervical Dilatation, Reason for CTG
Fetal: Liquor Colour (if known), Gestation, CTG Baseline, Variability, Accelerations, Decelerations (as per FIGO)
Decision: Date and Time of Fresh Eyes, Signature, and Status of Assessor, Classification of CTG and Action Taken
Review: Date and Time of Fresh Eyes, Signature and Status of Assessor and if agreements with Review and Action
- 7 Whenever possible intrapartum fetal surveillance training must be multi-professional. It must be delivered within a culture of respect and awareness of undermining behaviours and promote a positive and supportive atmosphere within the maternity setting. It should also encourage the principles of assertive communication and include a discussion about escalation and the use of multi-professional discussions, including safety huddles and a fresh eyes approach (3)


FIGO CTG Classification

2015 revised FIGO guidelines on intrapartum fetal monitoring.

	Normal	Suspicious	Pathological
Baseline	110 - 160 bpm	Lacking at least one characteristic of normality, but with no pathological features.	<100 bpm
Variability	5 - 25 bpm		Reduce variability. Increased variability. Sinusoidal pattern.
Decelerations	No repetitive* decelerations		Repetitive* late or prolonged decelerations for >30 min (or >20 min if reduced variability). Deceleration >5 min.
Interpretation	No hypoxia / acidosis		High probability of hypoxia / acidosis
Clinical Management	No intervention necessary to improve fetal oxygenation state	Action to correct reversible causes, if identified, close monitoring or adjunctive methods.	Immediate action to correct reversible causes, adjunctive methods, or if this is not possible, expedite delivery. In acute situations immediate delivery should be accomplished.

* Decelerations are repetitive when associated with >50% contractions. Absence of accelerations in labour is of uncertain significance.

PROMPT Wales: CTG Sticker - example

PROMPT Wales - Documentation pro forma for intrapartum CTG interpretation				
Feature	Reassuring (acceptable)	Non-reassuring		Abnormal
Baseline rate (bpm)	Baseline 110 – 160 bpm Rate:	Baseline rate 100 – 109 bpm for more than 10 minutes Rate:		Baseline less than 100 bpm Rate:
		Baseline rate more than 160 bpm for more than 10 minutes Rate:		Baseline rate more than 180 bpm Rate:
N.B A rising baseline rate even within the normal range may be of concern if other non-reassuring/abnormal features are present.				
Variability (bpm)	Variability of 5 – 25 bpm	Variability less than 5 bpm for 30 to 50 minutes		Variability less than 5 bpm for more than 50 minutes
	Comments:	Variability more than 25 bpm for 15 to 25 minutes		Variability more than 25 bpm for more than 25 minutes Sinusoidal pattern lasting for more than 30 minutes
Accelerations	Present	Comments:		
Decelerations	None	V-shaped Variable decelerations with more than 50% of contractions for more than 90 minutes		NON V-shaped (U-shaped) Variable decelerations with more than 50% of contractions and for more than 30 minutes
	<u>True</u> early decelerations			
	V-shaped Variable decelerations with less than 50% of contractions	NON V-shaped (U-shaped) Variable decelerations with more than 50% of contractions for less than 30 minutes		Repetitive Late decelerations (U-shaped) for more than 30 minutes
	V-shaped Variable decelerations with more than 50% of contractions for less than 90 minutes	Repetitive* Late decelerations (U-shaped) for less than 30 minutes (*Repetitive means with more than 50% of contractions)		Repetitive Late decelerations (U-shaped) and reduced variability for more than 20 minutes
NON V-shaped (U-shaped) Variable decelerations with less than 50% of contractions (and all other features of CTG are Reassuring)	Single prolonged deceleration lasting more than 3 minutes, but less than 5 minutes		Single prolonged deceleration for more than 5 minutes (A prolonged deceleration of less than 80 bpm with reduced variability and lasting more than 5 minutes is often associated with hypoxia)	
Contractions :10 (N.B If more than 5:10 - take action to reduce frequency)	Dilatation:	Liquor colour:	Gestation:	Maternal pulse:
Reason for CTG:		Other risk factors:		
Opinion (N.B If CTG has any non-reassuring or abnormal features present from the start, it may not be appropriate to wait for specified time limits before requesting review)	Normal CTG (All <i>four</i> FHR features are reassuring) No intervention necessary		Suspicious CTG (<i>One</i> non-reassuring FHR feature) Low probability of hypoxia Correct reversible causes (refer to algorithm & EFM interpretation guidance)	
			Pathological CTG (<i>Two or more</i> non-reassuring or <i>one or more</i> abnormal FHR features) High probability of hypoxia – urgent action required (refer to algorithm & EFM Interpretation guidance)	
Action taken: (Always consider the clinical circumstances when reviewing CTG and deciding action)				
Date:	Time:	Signature:		Status:
Fresh Eyes Opinion  <i>at least 2 hourly</i> I agree with opinion? YES / NO If opinion different complete new pro forma Date: Time: Signature: Status:				

PROMPT Wales: Interpretation CTG Classification

PROMPT Wales - Intrapartum CTG classification, interpretation and action	
Feature	Information
Baseline rate (bpm) The mean level of the FHR that is estimated over 10 minute periods	<ul style="list-style-type: none"> May be necessary to review previous segments of CTG and/or evaluate the baseline over a longer period of time if there are episodes of unstable FHR patterns. Preterm fetuses have a faster heart rate. A bradycardia is a baseline rate below 110 bpm lasting for more than 10 minutes. Values between 100 and 110 bpm may be normal, especially in post term pregnancies, but in this instance, all other features of the CTG will be reassuring. Maternal pyrexia is the most common cause of fetal tachycardia (FHR more than 160 bpm)
Variability (bpm) The variability of the FHR signal as displayed via the CTG tracing	<ul style="list-style-type: none"> Intermittent periods of reduced variability are normal, especially during periods of quiescence (sleep) Reduced variability can occur due to central nervous system hypoxia. Increased variability (saltatory pattern) of greater than 25 bpm bandwidth for more than 25 minutes may indicate hypoxia
Sinusoidal pattern Smooth & undulating, resembling a sine wave with amplitude of 5 – 15 bpm. It lasts for more than 30 minutes and is absent of accelerations	<ul style="list-style-type: none"> A sinusoidal pattern occurs in association with fetal anaemia and sometimes acute fetal hypoxia.
Accelerations Abrupt increase in FHR of more than 15 bpm above the baseline, lasting longer than 15 seconds (but less than 10 minutes)	<ul style="list-style-type: none"> Most accelerations coincide with fetal movement and are a sign that the fetus is not hypoxic. The absence of accelerations in an otherwise normal intrapartum CTG is unlikely to indicate hypoxia/acidosis
Decelerations Decrease in the fetal heart rate of more than 15 bpm and lasting for more than 15 seconds	<ul style="list-style-type: none"> Early decelerations: Short-lasting and shallow with normal variability within the decelerations, coinciding exactly with contractions – believed to be caused by head compression and does not indicate hypoxia
	<ul style="list-style-type: none"> Variable decelerations: Varying in shape, size and relationship to contractions. Usually associated with cord compression V-shaped variable decelerations (NO Concerning features present): exhibit a symmetrical rapid drop and rapid recovery to the baseline with good variability within deceleration and all other features of the CTG are reassuring. These seldom indicate hypoxia NON V-shaped /U-shaped variable decelerations (concerning features present i.e. reduced variability within the deceleration) – highly likely to indicate hypoxia if they occur with more than 50% of contractions and continue for more than 30 minutes
	<ul style="list-style-type: none"> Late decelerations: Repetitive*, U-shaped and/or with reduced variability within the deceleration and returning to baseline after the end of the contraction. Gradual onset and/or gradual return to baseline, starting more than 20 seconds after the onset of a contraction – these are highly likely to indicate hypoxia. (*Repetitive means with more than 50% of contractions)
	<ul style="list-style-type: none"> Prolonged deceleration: Lasting more than 3 minutes but less than 5 minutes is non-reassuring. It is abnormal if it lasts more than 5 minutes. Expedite birth in shortest possible time if bradycardia persists beyond 5 minutes. Decelerations of longer than 5 minutes with a FHR less than 80bpm and reduced variability are often associated with hypoxia and urgent action is required.
Contractions	<ul style="list-style-type: none"> Uterine hypercontractility is the most frequent cause of fetal hypoxia/acidosis. If contractions are more than 5:10, action should be taken to reduce them e.g. reduce/stop syntocinon infusion, remove prostaglandin and/or give subcutaneous terbutaline.
Opinion & Actions: Always consider the medical, clinical & obstetric circumstances when interpreting the CTG and determining the actions to be taken If CTG has any non-reassuring or abnormal features present from the start, it may not be appropriate to wait for specified time limits before requesting review	Normal: No action required
	Suspicious: Correct reversible causes: Change position, inform midwife coordinator or obstetrician, reduce (or STOP) oxytocin infusion, perform VE if appropriate, assess maternal pulse, respiratory rate, B/P, temperature, check for signs of infection, continue to monitor FHR closely, consider additional methods to assess fetal oxygenation. (Refer to Actions for Suspicious CTG Algorithm)
	Pathological: Immediate actions to correct reversible causes, STOP oxytocin infusion, inform midwife coordinator and senior obstetrician, perform VE (if appropriate), exclude fetal hypoxia (Fetal Scalp Stimulation (FSS) and/or Fetal Blood Sampling (FBS) if possible & appropriate). If in the 2 nd stage of labour and birth is <u>not</u> immediately imminent, consider stopping pushing. If a severe or acute event is suspected, FBS is not advised as it may delay action. If fetal hypoxia confirmed or if further assessment of fetal oxygenation is not possible, take action to expedite birth. (Refer to Actions for Pathological CTG Algorithm)

References

1. Royal College of Midwives (2012) Evidence Based Guidelines for Midwifery – Led Care in Labour, Intermittent Auscultation
2. FIGO Consensus Guidelines on Intrapartum Fetal Monitoring; Cardiotocography. Int J Gynecol Obstet 2015; 131:13-24. Ayres-de-Campos D, Spong CY, Chandrachan E, for the FIGO Intrapartum Fetal Monitoring Expert Consensus Panel
3. Each Baby Counts 2015 Update June 2017
4. MBRRACE-UK Saving Lives, Improving Mothers' Care – Lessons Learning to inform maternity care from the UK and Ireland Confidential Enquires into Maternal Deaths and Morbidity 2013-2015 December 2017

Acknowledgements

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