Fetal Monitoring

Specialty:	Maternity
Approval Body:	Labour Ward Forum
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FETAL MONITORING

INTRODUCTION

Fetal monitoring is a routine procedure which enables the clinician to monitor the wellbeing of the fetus and to intervene if appropriate. In normal low risk labour it can be performed by intermittent auscultation either by using a pinards stethoscope or a Doppler. When there are maternal or fetal conditions that increase the risk of intrapartum hypoxia (see Table 3) continuous Electronic Fetal Monitoring (EFM) is recommended, to provide the clinician with a period of continuous tracing of the fetal heart.

Electronic fetal monitoring can only be interpreted safely if the trace is of an adequate technical quality.

The National Institute for Clinical Care Excellence Guidelines (2014) recommend:

1. Paper set to 1cm/minute
2. Date and time on clock on the cardiotocograph is set correctly
3. The traces are stored carefully to ensure they are available for 25 years, this use of the CTG envelope is mandatory and the woman's details must be clearly displayed on the front of the envelope

Technique for recording intermittent auscultation of the fetal heart

- Use either a Pinard stethoscope or Doppler ultrasound
- During the initial assessment of the woman:
    - Auscultate the fetal heart between contractions to obtain a baseline rate
    - Auscultate the fetal heart immediately after a contraction, to identify any concerning decelerations
    - Auscultate the fetal heart during fetal movements to confirm presence of accelerations
- Carry out intermittent auscultation immediately after a contraction for at least 1 minute, at least every 15 minutes in the first stage, at least every 5 minutes in the second stage, and record it as a single rate, during active labour.
- Record accelerations and decelerations if heard
- Palpate the maternal pulse for at least one minute every 30 minutes, concurrently with the fetal heart to ensure 2 separate rates, both within normal limits

Technique for recording electronic fetal heart

- Abdominal palpation and auscultation of fetal heart using a Pinard stethoscope is necessary before continuous monitoring is commenced.
- The mother should lie on her left side in a comfortable and supportive position on a bed/couch to prevent aorto-caval compression
- The tocograph transducer should be placed where the fetal heart was heard
- A device e.g. the maternal pulse oximeter should be used continuously to ensure differentiation between maternal and fetal heart rate. Investigate any???? marks on the top of the CTG trace to ensure it is fetal heart rate being recorded and not maternal pulse.
- The duration of any recording should be at least 20 minutes with at least 2 movements/accelerations and the recording of good quality, if this is not possible, a senior

obstetrician should make the decision of when the recording should cease and document an ongoing plan

- All relevant information eg. vaginal examinations, administration of drugs, fetal blood sampling, vomiting, sitting for epidural insertion, that may affect the fetal heart should also be noted contemporaneously on the cardiotocograph
- Any member of staff who is asked to provide an opinion on a trace should date/time and sign the cardiotocograph and note any findings in the maternal case notes. The same should happen at any staff change over
- Applying a fetal scalp electrode should be considered where cardiotocograph tracing is of poor quality using an abdominal transducer
- Applying a fetal scalp electrode should be considered prior to epidural insertion or spinal if cardiotocograph tracing is non-reassuring or abnormal
- A label completed with the woman's name, date of birth, hospital number, the date and the woman's pulse at the start of the monitoring must be applied, this must include an evidence-based reason for the monitoring. If there is no availability of the label then the same information must be hand written.
- Following the birth , the mode of birth, time, outcome and signature of midwife must be written on the cardiotocograph (CTG)
- The CTG tracing needs to be stored in the designated wallet and placed appropriately in the maternal records and kept for 25 years. The woman's details must be clearly recorded on the front of the wallet.

Interpretation of electronic fetal monitoring

Where continuous monitoring is recommended the midwife is responsible for continual CTG interpretation. If there are any concerns with the interpretation of the tracing an appropriate medical review is essential and any concerns should be clearly documented in the midwifery records.

Between April 2018 and March 2019 it will be acceptable to interpret the CTG using either the NICE or FIGO classification until all staff have completed the fetal surveillance study session using FIGO classification. From April 2019 all interpretation of CTG's in ABMU HB will be using FIGO classification. (A decision was made to continue with NICE 2014 classifications until April 2019 whilst training is being undertaken on interpretation using FIGO classification)

The individual midwife caring for the woman is accountable for the interpretation of the CTG, the use of "fresh eyes" CTG interpretation is recommended.(appendix 1) The midwife seeks the assistance of a colleague (midwife or doctor) hourly to systemically review the trace with them and the sticker will be placed in the records and completed and signed by both practitioners (appendix 2 and 3).

The relevant interpretation label (antenatal or intrapartum) is to be placed in the maternity records hourly, and more frequently following any significant clinical event. If no label is available the same information needs to be hand written. The CTG will be categorised according to NICE guidelines (2014) eg normal, non-reassuring, abnormal (see table 1). From April 2018 – March 2019 CTG interpretation will be categorised using FIGO Classification following attendance at ABMU HB multidisciplinary training day. During this time it will be acceptable to use NICE until April 2019 when

all staff will have received training. This guideline will be updated in April 2019 when NICE interpretation will no longer be used.

In cases where the CTG falls into the non-reassuring category conservation measures should be taken wherever possible (see table 2)

In cases where the CTG falls in the abnormal category, a fetal blood sample should be taken where appropriate/feasible. In situations where fetal blood sampling is not possible or appropriate then delivery should be expediated (see table 2)

If uterine hypercontractibility occurs in association with oxytocin infusion and a non-reassuring or abnormal CTG is present, the oxytocin infusion should be reduced or discontinued.

In the presence of an abnormal fetal heart rate pattern and uterine hypercontractibility that is not secondary to oxytocin infusion, tocolysis should be considered. A suggested regime is subcutaneous terbutaline 0.25 milligrams.

Umbilical cord acid base status should be assessed by collection of paired blood samples in heparinised syringes from the umbilical artery and vein as a minimum following emergency caesarean section, instrumental delivery, where a fetal blood sampling has been performed in labour, where there have been any concerns in labour or where baby requires resuscitation following birth.

Indications for continuous fetal monitoring

Continuous CTG should be offered if any of the following risk factors are present or arise in labour, this list is not exhaustive and clinical judgement should be used:

- Previous caesarean section
- Multiple pregnancy
- Suspected IUGR
- Suspected chorioamnionitis or sepsis, or a temperature of 38 C or above
- Severe hypertension (150/100mmHg or above
- Oxytocin or prostaglandin use
- The presence of significant meconium
- Fresh vaginal bleeding that develops in labour
- Pre-term labour
- Prolonged period since rupture of membranes (24 hours or more)
- Confirmed delay in first or second stage of labour

Table 1 CTG Categorisation (NICE 2014) (The health board is changing to FIGO

	FEATURE		
Description	**Baseline (beats/ minute)**	**Baseline variability (beats/ minute)**	**Decelerations**
Normal/reassuring	110-160	5 or more	None or early
Non-reassuring	161-180	Less than 5 for 30-90 minutes	Variable deceleration: • Dropping from baseline by 60 beats/minute or less **and** taking 60 seconds or less to recover • Present for over 90 minutes • Occurring with over 50% of contractions OR Variable decelerations: • Dropping from baseline by more than 60 beats/minute **or** taking over 60 seconds to recover • Present for up to 30 minutes • Occurring with over 50% of contractions OR Late decelerations: • Present for up to 30 minutes • Occurring with over 50% of contractions
Abnormal	Above 180 or below 100	Less than 5 for over 90 minutes	Non-reassurring variable deceleration (see row above): • Still observed 30 minutes after starting conservative measures • Occurring with over 50% of contractions OR Late decelerations: • Present for over 30 minutes • Do not improve with conservative measures • Occurring with over 50% of contractions OR Bradycardia or a single prolonged deceleration lasting 3 minutes or more.

Table 2 Actions to be taken based on category of CTG (NICE 2014)

Category	Definition	Interpretation	Management
CTG is normal/ reassuring	All 3 features are normal/ reassuring	Normal CTG, no non-reassuring or abnormal features, healthy fetus	• Continue CTG and normal care • If CTG was started because of concerns arising from intermittent auscultation, remove CTG after 20 minutes if there are no non-reassuring or abnormal features and no ongoing risk factors
CTG is non-reassuring and suggests need for conservative measures	1 non-reassuring feature AND 2 normal/ reassuring features	Combination of features that may be associated with increased risk of fetal acidosis; if accelerations are present, acidosis is unlikely	• Think about possible underlying causes • If the baseline fetal heart rate is over 160 beats/minute, check the woman's temperature and pulse. If either are raised, offer fluids and paracetamol • Start 1 or more conservative measures: - Encourage the woman to mobilise or adopt a left-lateral position, and in particular to avoid being supine - Offer oral or intravenous fluids - Reduce contraction frequency by stopping oxytocin if being used and consider tocolysis • Inform co-ordinating midwife and obstetrician
CTG is abnormal and indicates need for conservative measures AND further testing	1 abnormal feature OR 2 non-reassuring features	Combination of features that is more likely to be associated with fetal acidosis	• Think about possible underlying causes • If the baseline fetal heart rate is over 180 beats/minute, check the woman's temperature and pulse. If either are raised, offer fluids and paracetamol • Start 1 or more conservative measures (see "CTG is non-reassuring...."row for details) • Inform co-ordinating midwife and obstetrician • Offer to take an FBS (for lactate of pH) after implementing conservative measures, or expedite birth if an FBS cannot be obtained and no accelerations are seen as a result of scalp stimulation • Take action sooner than 30 minutes if later decelerations are accompanied by tachycardia and/or reduced baseline variability • Inform the consultant obstetrician if any FBS result is abnormal. • Discuss with the consultant obstetrician if an FBS cannot be obtained or a third FBS is thought to be needed
CTG is abnormal and indicates **need for urgent intervention**	Bradycardia or a single prolonged deceleration with baseline below 100 beats/minute,	An abnormal feature that is very likely to be associated with current fetal	• Start 1 or more conservative measures (see "CTG is non-reassuring..." row for details) • Inform co-ordinating midwife • Urgently seek obstetric help • Make preparations for urgent birth • Expedite birth if persists for 9 minutes

	persisting for 3 minutes or more*	acidosis or imminent rapid development of fetal acidosis	• If heart rate recovers before 9 minutes, reassess decision to expedite birth in discussion with the woman

*A stable baseline value of 90-99 beats/minute with normal baseline variability (having confirmed that this is not the maternal heart rate) may be a normal variation; obtain a senior obstetric opinion if uncertain

CTG Classification FIGO

Tracings should be classified into one of three classes: normal, suspicious or pathological, according to the criteria below

	NORMAL	SUSPICIOUS	PATHOLOGICAL
BASELINE	110-160BPM	Lacking at least one characteristic of normality, but with no pathological features	< 100 BPM
VARIABILITY	5-25BPM		Reduced variability for more than 50 minutes, Increased variability for more than 30 minutes, or sinusoidal pattern for more than 30 minutes
DECELERATIONS	NO REPETITIVE[1] DECELERATIONS		Repetitive late or prolonged decelerations during more than 30 minutes or 20 minutes if reduced variability, or one prolonged deceleration for more than 5 minutes
INTERPRETATION	FETUS WITH NO HYPOXIA/ACIDOSIS	Fetus with a low probability of having hypoxia/acidosis.	Fetus with a high probability of having hypoxia/acidosis
CLINICAL MANAGEMENT	NO INTERVENTION IS NECESSARY TO IMPROVE FETAL OXYGENATION STATE	Action to correct reversible causes if identified, close monitoring or additional methods to evaluate fetal oxygenation	Immediate action to correct reversible causes, additional methods to evaluate fetal oxygenation or if this is not possible expedite delivery. In acute situations(cord prolapse, uterine rupture or placental abruption) immediate delivery should be accomplished

[1] The presence of accelerations denotes a fetus that does not have hypoxia/acidosis, but there absence during labour is of uncertain significance. Decelerations are repetitive in nature when they are associated with more than 50% of uterine contractions

Use of CTG in the pre-term fetus

There is a lack of evidence-based recommendations for electronic monitoring pre-term fetuses. NICE Intra Partum Guidelines (2017) covers the care of healthy women in labour at term (37 – 42 weeks gestation).

Some of the characteristics of fetal heart rate are dependent on gestational age as they reflect the development and maturity of cardiac centres in the central nervous system as well as the cardiovascular system which need to be taken into consideration to correctly interpret the CTG (Afors and Chandraharan 2011)

Assessment of the survival and long term outcome at the given gestational age should be taken into consideration as well as the wider clinical picture such any infection, maternal age, condition of the fetus and wishes of the woman when making a management plan.

Evaluation of the risks of any intervention should include possible need for a classical caesarean section and future increased risk of uterine rupture.

Fetal blood sampling is contra-indicated in the pre-term fetus as there are concerns with reduced thickness of fetal scalp, wider separation of the skull bones and immature coagulation system which could increase risk of complications.

Points to remember when interpreting a pre-term CTG

24 – 26 weeks

At this gestation there is a high risk of neonatal morbidity and mortality. Use of CTG is contentious, each case should be considered individually with an intrapartum plan of care documented following discussion with woman, senior obstetrician (ideally a consultant) and neonatologists considering the likelihood of severe morbidity of the fetus and issues related to mode of delivery. If a C/S is agreed as a delivery option then consideration should be given to CTG monitoring.

- Operative intervention is likely to increase risk of maternal morbidity associated with a classical caesarean section, haemorrhage and increased risk of uterine rupture in a future pregnancy.
- Baseline rate is ' usually between 150 – 160bpm, but >160 should be considered tachycardic
- Variability and cycling is reduced: this may also be associated with drugs such as opiates, magnesium sulphate and steroids.
- Accelerations may not be present or greatly reduced in amplitude
- Decelerations are common at this gestation and may not be indicative of hypoxia

26 – 28 weeks

- Survival is significantly higher than at 24 – 26 weeks
- Women should be make informed choice regarding CTG following discussion with obstetrician and neonatologist
- CTG usually similar to 24 – 26 weeks gestation
- After 27 weeks incidents of variable decelerations is greatly reduced
- Variability often within normal range
- Frequency of accelerations increased but usually with lower amplitude: 10 beats above the baseline as opposed to 15.

28 – 32weeks

- Survival increases as the fetal organs are relatively mature and significantly improved neurological development
- CTG is recommended following discussion and agreement with the woman
- Features often comparable with term fetus
- Variable deceleration reduce in number and should disappear after 30 weeks
- Baseline rate usually decreasing from the upper end of normal range
- Variability of >5bpm and signs of cycling more likely from 30 weeks
- In normal well grown fetuses, acidosis can take up to 90 minutes to develop but with pre-term or growth restricted fetuses acidosis may develop much quicker and there should be a low threshold for intervention

32 – 34 weeks

- Neonatal morbidity and mortality is significantly reduced
- CTG is recommended following discussion with and informed consent from, the woman
- Physiological maturity of the cardiovascular system and neuro control of the fetal heart rate is similar to the term fetus and the NICE classification of the CTG can be applied
- Fetal blood sampling is contra-indicated in fetuses <34 weeks gestation.
- Pre-term fetuses have lower reserves compared to term infants and may have a reduced ability to withstand any intrapartum insults. There should be a low threshold for intervention

Antenatal Fetal Surveillance

Routine auscultation of the fetal heart with a Doppler or Pinnard stethoscope is usually part of each antenatal assessment during pregnancy. Whilst it confirms that the fetus is alive, is unlikely to have any predictive value and routine listening is not recommended by the NICE Antenatal Guidelines (2017a). However, auscultation of the fetal heart usually provides reassurance for the mother.

The antenatal CTG is widely used as the primary method of antenatal fetal assessment but can have high inter-observer inconsistencies. It is usually used in conjunction with other ways of monitoring fetal health and wellbeing including observation of fetal movements, ultra sound assessments and Doppler blood flow recording.

The evidence does not support the routine use of antenatal CTG for fetal assessment in women with an uncomplicated pregnancy (NICE 2017b) and a Cochrane review found no clear evidence that antenatal CTGs improve perinatal outcomes.

All women who attend the admission/day assessment units should be assessed on an individual basis to establish if CTG monitoring is indicated.

Indications for use

Women with recognised pre-existing risk factors

- Previous stillbirth or neonatal death
- Medical disorders such as diabetes, hypertension,

Women who develop complications during pregnancy

- Antepartum haemorrhage
- Hypertensive disorder of pregnancy
- Reduced fetal movements
- Pre-labour premature rupture of membranes
- Threatened pre-term labour
- Abdominal trauma/pain
- Small for gestational age fetus
- Oligohydramnios/polyhydramnios
- Abnormal umbilical artery Doppler velocimetry
- Multiple pregnancy
- Isoimmunisation
- Post-term pregnancy >42 weeks
- Known fetal abnormality which requires monitoring
- Any medical/obstetric condition which constitutes a significant risk of fetal compromise

Interpretation of the antenatal CTG

- The CTG must be of good technical quality to be interpreted safely.
- It should be continued for a minimum of 20 minutes
- The four main features, baseline rate, baseline variability, accelerations and decelerations should be systematically examined to assist in the interpretation of the CTG
- The whole clinical situation should be considered including the reason for performing the CTG and gestational age
- The designated antenatal CTG proforma should always be used for the classification of the trace in not-labouring women (see appendix 3)
- Using an intra-partum proforma is not appropriate as an antenatal CTG is either normal or abnormal.
- Accelerations of the fetal heart rate appear to be a reflection of central nervous system wellbeing and there should be at least 2 accelerations (>15 beats for >15secs) in 10 minutes.
- The sleep phase with no fetal movement and no fetal heart accelerations does not usually exceed 40 minutes. If there are no accelerations in 20 minutes, continue for a further 20 minutes.

Normal - A CTG where **all** four features fall into the (NICE 2014) 'reassuring'

(FIGO) "normal" category:

Baseline FHR 110 – 160bpm

Variability of FHR between 5 – 25bpm

Decelerations are absent

Presence of accelerations

Abnormal - A CTG with **any** non-reassuring features present (including any decelerations and absence of accelerations)

Action to be taken - The Antenatal CTG proforma should always be used to categorise the trace

Normal CTG

- Results should be documented in the case records by the midwife and obstetric staff informed if appropriate

Abnormal CTG

- Results documented in the case records
- Continue the CTG
- Ask for a review by an appropriate experienced obstetrician as soon as possible (within 30 minutes) and document in maternal case records
- An individualised action plan should be agreed upon with the woman and should include further tests such as ultrasound scan, Doppler studies, consideration for expediting birth and further follow up.

REFERENCES

FIGO

National Institute of Clinical Excellence. Clinical Guideline December 2014 Intrapartum Care of healthy women and their babies during childbirth.

National Institute of Clinical Excellence. Clinical Guideline February 2017 Intrapartum Care of healthy women and their babies during childbirth.

National Institute of Clinical Excellence. Clinical Guideline January 2017 Antenatal care for uncomplicated pregnancies.

K Afors, E Chandraharan, 'Use of continuous electronic fetal monitoring in a preterm fetus: clinical dilemmas and recommendations for practice. Journal of Pragnancy, Vol 2011 (2011)

Appendix 1: Fresh Eyes' CTG Interpretation

Monitoring of the fetal heart rate pattern and uterine contraction profile during labour is a critical component of modern obstetric and midwifery practice. The objective of this practice should be to maximise the probability of detection of a compromised baby, without increasing the number of unnecessary maternal interventions.

There are many variables which make CTG interpretation challenging and these range from individual interpretation, fatigue, lack of knowledge, familiarity (providing 1:1 care for an extended period and experiencing a lack of objectivity). Efforts made to support a reduction in these variables include:

Lack of knowledge – evidence of completion of the RCOG e-learning for healthcare package with a minimum pass mark of >70% is compulsory for all obstetric staff as is attendance at a yearly update session.
Fatigue - is to be combated through staff taking regular meal breaks as necessary – the Delivery Suite Co-ordinator is responsible for ensuring this occurs.
Familiarity - is to be addressed through application of the following:

' FRESH EYES ' procedure:
The individual practitioner providing care to a woman who requires continuous CTG monitoring is responsible for continual CTG interpretation. A record of this interpretation must be documented in the woman's obstetric notes at least every 30 minutes and after any significant clinical event e.g. epidural insertion, vaginal examination, change of maternal position (clinical events along with Obstetrician's reviews must also be recorded on the CTG tracing).

Every hour the practitioner providing care to the woman must seek the assistance of a colleague (midwife or doctor) to systematically review the CTG trace with them, to categorise the trace and to decide upon an appropriate plan of care

The CTG interpretation sticker must be completed, signed by **both** practitioners, and fixed in the woman's obstetric notes.

Audit of compliance with this procedure is included in the Clinical Supervisor for Midwives annual record-keeping audit.

Appendix 2: NICE 2014 Intrapartum and Fresh Eyes CTG sticker

Intrapartum CTG proforma	Normal/Reassuring	Non-Reassuring	Abnormal	GIG CYMRU NHS WALES
Baseline rate (bpm)	100-160 Rate:	161-180 Rate:	>180 <100 Rate:	Comments
NB: Rising baseline rate even within normal range may be of concern if other non- reassuring /abnormal features present				
Variability (bpm)	5 or more	<5 for 30-90 minutes	< 5 for > 90 minutes	
Decelerations	None Early True early decelerations are rare and benign (CONFIRM THEY ARE NOT VARIABLE DECELERATIONS)	1. Variable deceleration: - dropping from baseline < 60bpm and taking < 60 seconds to recover - present for > 90 minutes - occurring with over 50% of contractions 2. Variable deceleration: - dropping from baseline >60bpm or taking >60 seconds to recover - present for > 30 minutes - occurring with over 50% of contractions 3. Late decelerations - present > 30 minutes - occurring with over 50% of contractions	Non-reassuring variable decelerations - still observed 30 minutes after starting conservative measures - occurring with over 50% of contractions **Or** Late decelerations - present for > 30 minutes - do not improve with conservative measures - occurring with over 50% of contractions **Or** Bradycardia or a single prolonged deceleration lasting 3 minutes or more	
NB: If CTG has any non-reassuring or abnormal features from commencement of monitoring, it may not be appropriate to wait 30 or 90 minutes before requesting review				
Opinion:	**Normal/Reassuring CTG** All 3 features are normal/ reassuring	**Non-reassuring CTG** requiring conservative measures 1 non-reassurring feature and 2 normal features	**abnormal CTG** needing conservative measures and further testing 1 abnormal or 2 non-reassurring features	**Abnormal CTG** needing urgent interventions Bradycardia for > 3 minutes

Risk Factors:	Contractions :10	Maternal pulse:	Liquor colour:	Dilatation (cm):	Gestation (wks):
Action:					

CTG REVIEW Date:	Time:	Signature: ..... Print: ..... Designation: .....
Fresh eyes review:	Time:	Signature: ..... Print: ..... Designation: .....

Appendix 3: FIGO Intrapartum and Fresh Eyes CTG Sticker

Intrapartum CTG interpretation						
DATE: TIME:	Gestation	Contractions	Cx dilatation	Liquor colour	Maternal Pulse	Last recorded Temperature
Risk factors for CTG:						

FEATURE	REASSURING		NON-REASSURING		ABNORMAL	TICK
BASELINE RATE	110-160	RATE	BASELINE ≤ 109 or ≥160	RATE	BASELINE ≤ 100 or ≥ 180	RATE
VARIABILITY	5-25bpm	TICK	Variability ≤ 5bpm for 30-50 minutes	TICK	Variability ≤ 5bpm for more than 50 mins	TICK
			Variability ≥ 25bpm for 15-25 minutes		Variability ≥ 25bpm for more than 25 minutes	
					Sinusoidal pattern lasting more than 30 minutes	
DECELERATION	NONE	TICK	V-shaped variable decelerations with ≥ 50% contractions for more than 90 minutes	TICK	Repetitive late U-shaped decelerations with REDUCED VARIABILITY FOR MORE THAN 20 MINUTES	TICK
	TRUE EARLY DECELERATIONS		U-shaped variable and late decelerations with ≥ 50% contractions for up to 30 minutes		U-shaped variable and/or late decelerations with ≥ 50% of contractions for more than 30 minutes	
	V or U shaped decelerations with ≤ 50% of contractions and all other features of the CTG are reassuring		Single prolonged deceleration lasting more than 3 minutes but less than 5 minutes		Single prolonged deceleration lasting more than 5 minutes	
Categorise CTG: place tick in relevant box	NORMAL CTG- NO INTERVENTION NECESSARY		SUSPISCIOUS CTG- ONE non-reassuring feature Low probability of hypoxia. Correct reversible causes		**PATHOLOGICAL CTG**	
• **The presence or absence of accelerations during labour is uncertain** • **A rising baseline rate even within the normal range may be of concern if other non-reassuring/abnormal features are present**			TWO OR MORE non-reassuring or ONE OR MORE 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)

	SIGNATURE	PRINT NAME	ROLE

Fresh Eyes Opinion	*at least 1 hourly*	I agree with opinion? YES / NO (If NO complete new proforma)		
DATE:	**TIME:**	**SIGNATURE**	**PRINT NAME**	**ROLE**

Appendix 4: Antenatal CTG sticker

Antenatal CTG Proforma	Reassuring	Non-Reassuring		
Baseline rate (bpm)	110 - 160 Rate:	Less than 109 Rate: More than 161 Rate: Sinusoidal pattern for 10 minutes or more	Comments:	
N.B Rising baseline rate even within normal range may be of concern if other non-reassuring features present				
Variability (bpm)	5 - 25 bpm	Less than 5 bpm for more than 40 minutes	Comments:-	
N.B If variability > 25bpm continue CTG until normal range (5-25bpm)				
Accelerations	Present	None for 40 minutes	Comments:-	
Decelerations	None	Unprovoked deceleration/s Decelerations related to uterine tightenings (not in labour)	Comments:-	
Opinion	*Normal CTG* (All 4 features reassuring)	*Abnormal CTG* (1 or more non reassuring feature)		
Maternal Temp	**Maternal pulse:**	**Membranes ruptured: Y / N** **If yes, date and time:**	**Liquor colour:**	**Gestation (wks):**
Reason for CTG:				
Action: **(An abnormal CTG requires prompt review by experienced obstetrician/senior midwife)** LGD				
Date:	**Time:**	**Signature: ..... Print: ..... Designation: .....**		

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	Fetal Monitoring
Name(s) of Author:	Labour Ward Forum
Chair of Group or Committee approving submission:	Labour Ward Forum
Brief outline giving reasons for document being submitted for ratification	Update existing policy
Details of persons included in consultation process:	Labour Ward Forum
Name of Pharmacist (mandatory if drugs involved):	n/a
Issue / Version No:	3
Please list any policies/guidelines this document will supercede:	Fetal Monitoring (Sept 2015)
Date approved by Group:	15th November 2018
Next Review / Guideline Expiry:	15th November 2021
Please indicate key words you wish to be linked to document	Monitoring, CTG, EFM, Surveillance
File Name: Used to locate where file is stores on hard drive	Z:\npt_fs2\Maternity Incidents Stats Etc\Policies\Ratified - Obs