

## MATERNITY GUIDELINES

---

### Fetal monitoring during labour

1. Patient information and discussion.....	2
2. Fetal monitoring.....	2
2.1 Monitoring and assessment in early labour.....	2
2.2 Monitoring in established labour.....	3
2.3 Transferring from intermittent auscultation to continuous CTG.....	3
3. Electronic fetal monitoring (EFM) and record keeping.....	5
4. Methods available for recording CTG.....	5
5. Systematic CTG assessment.....	6
5.1 Make a documented systematic assessment.....	6
5.2 Fresh Eyes:.....	6
6. Principles for intrapartum CTG trace interpretation.....	6
6.1 Baseline fetal heart rate.....	7
6.2 Baseline variability.....	7
6.3 Accelerations.....	8
6.4 Decelerations.....	8
7. Categorisation of CTG traces.....	9
8. Management of CTG traces.....	10
8.1 Acute bradycardia.....	10
8.2 Pathological.....	10
8.3 Suspicious.....	11
8.4 Normal.....	11
9. Conservative measures.....	11
9.1 Intrauterine resuscitation.....	11
9.2 Fetal scalp stimulation.....	12
9. Fetal blood sampling.....	12



10.1 When a fetal blood sample cannot be obtained.....	14
10. End of labour .....	14
11. Support for parents in cases of actual or suspected fetal compromise and poor outcome of baby.....	14
12. Storage of CTGs .....	14
13. Record keeping .....	15
Appendix 1 .....	16

## **1. Patient information and discussion**

Women must be made aware in the antenatal period of the options available for fetal monitoring during labour; this is ideally discussed at the 36 week community midwifery appointment.

**Do not offer cardiotocography (CTG) to women at low risk of complications in established labour.**

## **2. Fetal monitoring**

### **2.1 Monitoring and assessment in early labour**

Offer intermittent auscultation of the fetal heart rate to women at low risk of complications in established first stage of labour. Abdominal palpation should be performed to determine the optimal area for listening to the fetal heart.

- Use either a Pinard stethoscope or Doppler ultrasound (document what device used)
- Carry out intermittent auscultation immediately after a contraction for at least 1 minute, at least every 15 minutes, and record it as a single rate
- Record accelerations and decelerations if heard
- Palpate the maternal pulse hourly, or more often if there are any concerns, to differentiate between the maternal and fetal heartbeats
- Enquire about the presence of fetal movements as a marker of fetal wellbeing
- Document all findings in yellow birth notes records or appropriate Triage admission paperwork.

If there is a rising baseline fetal heart rate or decelerations are suspected on intermittent auscultation, actions should include:



- Carrying out intermittent auscultation more frequently, for example after 3 consecutive contractions initially.
- Thinking about the whole clinical picture, including the woman's position and hydration, the strength and frequency of contractions and maternal observations.

If a rising baseline or decelerations are confirmed, further actions should include:

- Informing the co-ordinator that the management has changed from intermittent auscultation to continuous electronic fetal monitoring.
- Advising continuous CTG, and explaining to the woman why it is needed
- Transferring the woman to Obstetric-led care, provided that it is safe and appropriate to do so.

The maternal pulse should be palpated at the initial assessment, hourly throughout labour and if an FHR abnormality is detected, to differentiate between the two heart rates.

## 2.2 Monitoring in established labour

- **First stage of labour:** the fetal heart rate should be auscultated as a minimum every 15 minutes for a minimum of one minute after a contraction
- **Second stage of labour:** the fetal heart rate should be auscultated after every contraction, or at least every 5 minutes
- Hourly maternal pulse on the partogram to differentiate between fetal heart and maternal pulse.

## 2.3 Transferring from intermittent auscultation to continuous CTG

If any of the following risk factors are present at the initial assessment of labour or arise during labour then the woman should be advised to transfer to Obstetric Consultant care and receive continuous CTG:

- Maternal pulse over 120 beats/minute on 2 occasions 30 minutes apart.
- Temperature of 38°C or above on a single reading, or 37.5°C or above on 2 consecutive occasions 2 hours apart.
- Suspected chorioamnionitis or sepsis.
- Pain reported by the woman that differs from the pain normally associated with contractions.
- The presence of significant meconium.
- Fresh vaginal bleeding that develops in labour.



- 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.
- Moderate 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 **requires a discussion with the obstetrician, regarding the need for continuous fetal monitoring.**
- 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.
- Contractions that last longer than 60 seconds (hypertonus), or more than 5 contractions in 10 minutes (hyperstimulation) oxytocin use.
- Maternal complications of pregnancy such as type 1 or type 2 diabetes, cardiac disease. **Note:** Women with Gestational Diabetes, where blood sugars have been well controlled and there are no other risk factors **do not** require continuous fetal monitoring in labour.
- Fetal complications of pregnancy such as small for gestational age fetus, Rhesus disease, oligohydramnios, multiple pregnancy.
- Epidural anaesthesia.
- Breech in labour.
- Multiple pregnancy.
- Preterm pregnancy from 26 weeks unless clinicians requests earlier.
  
- Previous Caesarean section.
- Pre-labour rupture of membranes > 24 hour, if the patient is pyrexial.
- Pregnancy > 42 weeks.
- Maternal request

Do not offer continuous CTG to women who have non-significant meconium if there are no other risk factors.

Do not regard amniotomy alone for suspected delay in the established first stage of labour as an indication to start continuous CTG.

Address any concerns that the woman has about continuous CTG, and give her the following information:

- Explain that continuous CTG is used to monitor the baby's heartbeat and the labour contractions.
- Explain that it may restrict her mobility.
- Give details of the types of findings that may occur. Explain that a normal trace indicates that the baby is coping well with labour.



- Explain that changes to the baby's heart rate pattern during labour are common and do not necessarily cause concern.
- Explain that decisions about her care during labour and birth will now be based on an assessment of several factors, including her preferences, her condition and that of her baby, as well as the findings from CTG.

Unnecessary interruptions to continuous electronic fetal monitoring must be avoided wherever possible. Women should be offered the use of a commode to enable the continuation of fetal monitoring where toilet facilities are required. Unavoidable interruptions such as transfer between areas must be minimised with continuous monitoring being recommenced at the earliest opportunity.

If continuous CTG has been started because of concerns arising from intermittent auscultation, but the trace is normal after 20 minutes, return to intermittent auscultation unless the woman asks to stay on continuous CTG.

### **3. Electronic fetal monitoring (EFM) and record keeping**

- CTGs must be labelled with the mother's name, hospital no, date and time, gestation and maternal pulse.
- The date and time clocks on the CTG machine must be correctly set and signed to confirm this on the CTG paper.
- Any intrapartum events (that may affect the FHR) should be noted on the CTG together with time and signature.
- Any member of staff who is asked to provide an opinion on a CTG should note their findings on the CTG using Table 1 (sticker) together with date, time and signature.
- If the CTG has been reviewed by the co-ordinator or obstetrician due to fetal concerns this should be documented in the maternal hand held notes and the CTG signed.

### **4. Methods available for recording CTG**

Continuous monitoring can be performed using an external Doppler or by applying a fetal scalp electrode (FSE). FSEs are used where there is regular loss of contact making accurate interpretation of the CTG challenging. **Do not use a FSE** when there is risk of HIV, HBV, HCV, face presentation or other medical contraindication. They should be used with great caution at a gestation less than 34 weeks.

FSE use does not rule out the possibility of recording a maternal heart rate.



Be aware of the limitations of CTG recordings due to artefact and doubling of maternal heart rate.

If there is any doubt with respect to origin of the CTG recording please confirm the presence of a fetal heart using other methods such as Pinard, Doppler or real time ultrasound.

## 5. Systematic CTG assessment

**5.1 Make a documented systematic assessment** of the condition of the woman and unborn baby (including CTG findings) every hour and document this in the yellow intrapartum care notes using the criteria in Table 1, or more frequently if there are concerns.

- Do not make any decision about a woman's care in labour on the basis of CTG findings alone.
- Take into account the woman's preferences, any antenatal and intrapartum risk factors, the current wellbeing of the woman and unborn baby and the progress of labour.
- Ensure that the focus of care remains on the woman rather than the CTG trace.
- Remain with the woman in order to continue providing one-to-one support.
- Talk to the woman and her birth companion(s) about what is happening and take her preferences into account.

### 5.2 Fresh Eyes:

Fresh eyes is an **additional**, individual formal CTG assessment and is to be completed on an hourly basis, **at the same time** as the allocated midwives CTG review. It can be completed by **any** midwife, labour ward co-ordinator or obstetrician and the same individual can review the CTG on multiple occasions.

## 6. Principles for intrapartum CTG trace interpretation

- When reviewing the CTG trace, assess and document contractions and all 4 features of fetal heart rate: baseline rate; baseline variability; presence or absence of decelerations (and **concerning characteristics** of variable decelerations\* if present); presence of accelerations.
- If there is a stable baseline fetal heart rate between 110 and 160 beats/minute and normal variability, continue usual care as the risk of fetal acidosis is low.
- If it is difficult to categorise or interpret a CTG trace, obtain a review by a senior midwife or a senior obstetrician.



**\*Regard the following as concerning characteristics (previously termed “atypical” variable decelerations) of variable decelerations:**

- lasting more than 60 seconds
- reduced baseline variability within the deceleration
- failure to return to baseline
- biphasic (W) shape
- no shouldering

## 6.1 Baseline fetal heart rate

Use the following categorisations for baseline fetal heart rate:

- Reassuring:
  - 110 to 160 beats/minute
- Non-reassuring:
  - 100 to 109 beats/minute
  - 161 to 180 beats/minute
- Abnormal:
  - below 100 beats/minute
  - above 180 beats/minute

Take the following into account when assessing baseline fetal heart rate:

- Differentiate between fetal and maternal heartbeats.
- Baseline fetal heart rate will usually be between 110 and 160 beats/minute.
- Although a baseline fetal heart rate between 100 and 109 beats/minute is a non-reassuring feature, continue usual care if there is normal baseline variability and no variable or late decelerations.

## 6.2 Baseline variability

Use the following categorisations for fetal heart rate baseline variability:

- Reassuring:
  - 5 to 25 beats/minute
- Non-reassuring:
  - less than 5 beats/minute for 30 to 50 minutes
  - more than 25 beats/minute for 15 to 25 minutes
- Abnormal:
  - less than 5 beats/minute for more than 50 minutes
  - more than 25 beats/minute for more than 25 minutes
  - sinusoidal pattern

Take the following into account when assessing fetal heart rate baseline variability:

- Baseline variability will usually be between 5 and 25 beats/minute.



- Intermittent periods of reduced baseline variability are normal, especially during periods of quiescence ('sleep').

### 6.3 Accelerations

The presence of fetal heart rate accelerations, even with reduced baseline variability, is generally a sign that the baby is healthy. The absence of accelerations on an otherwise normal CTG trace does not indicate fetal acidosis.

### 6.4 Decelerations

When describing decelerations in fetal heart rate, specify:

- their timing in relation to the peaks of the contractions
- the duration of the individual decelerations
- whether or not the fetal heart rate returns to baseline
- how long they have been present for
- whether they occur with over 50% of contractions
- the presence or absence of a biphasic (W) shape
- the presence or absence of shouldering
- the presence or absence of reduced variability within the deceleration.

Describe decelerations as 'early', 'variable' or 'late'. Do not use the terms 'typical' and 'atypical' because they can cause confusion.

Use the following categorisations for decelerations in fetal heart rate:

- Reassuring:
  - no decelerations
  - early decelerations
  - variable decelerations with no concerning characteristics for less than 90 minutes
- Non-reassuring:
  - variable decelerations with no concerning characteristics for 90 minutes or more
  - variable decelerations with any concerning characteristics in up to 50% of contractions for 30 minutes or more
  - variable decelerations with any concerning characteristics in over 50% of contractions for less than 30 minutes
  - late decelerations in over 50% of contractions for less than 30 minutes, with no maternal or fetal clinical risk factors such as vaginal bleeding or significant meconium
- Abnormal:
  - variable decelerations with any concerning characteristics in over 50% of contractions for 30 minutes (or less if there are any maternal or fetal clinical risk factors)





- late decelerations for 30 minutes (or less if there are any maternal or fetal clinical risk factors)
- acute bradycardia, or a single prolonged deceleration lasting 3 minutes or more.

Regard the following as **concerning** (previously termed “atypical”) characteristics of variable decelerations:

- Lasting more than 60 seconds
- Reduced baseline variability within the deceleration
- Failure to return to baseline
- Biphasic (W) shape
- No shouldering.

If variable decelerations with no concerning characteristics are observed:

- Be aware that these are very common, can be a normal feature in an otherwise uncomplicated labour and birth, and are usually a result of cord compression
- Ask the woman to change position or mobilise.

Take the following into account when assessing decelerations in fetal heart rate:

- Early decelerations are uncommon, benign and usually associated with head compression
- Early decelerations with no non-reassuring or abnormal features on the cardiotocograph trace should not prompt further action.

Take into account that the longer and later the individual decelerations, the higher the risk of fetal acidosis (particularly if the decelerations are accompanied by tachycardia or reduced baseline variability).

## **7. Categorisation of CTG traces**

Categorise cardiotocography traces as follows:

- **Normal:** all features are reassuring (see Table 1)
- **Suspicious:** 1 non-reassuring feature and 2 reassuring features (but note that if accelerations are present, fetal acidosis is unlikely)
- **Pathological:**
  - 1 abnormal feature **or**
  - 2 non-reassuring features.



## 8. Management of CTG traces

If there is a stable baseline fetal heart rate between 110 and 160 beats/minute and normal variability, continue usual care as the risk of fetal acidosis is low.

### 8.1 Acute bradycardia

If there is an acute bradycardia, or a single prolonged deceleration for 3 minutes or more:

- Urgently seek obstetric help.
- If there has been an acute event (for example, cord prolapse, suspected placental abruption or suspected uterine rupture), expedite the birth or correct any underlying causes, such as hypotension or uterine hyperstimulation.
- Start one or more conservative measures.
- Make preparations for an urgent birth.
- Talk to the woman and her birth companion(s) about what is happening and take her preferences into account.
- Expedite the birth if the acute bradycardia persists for 9 minutes.

If the fetal heart rate recovers at any time up to 9 minutes, reassess any decision to expedite the birth, in discussion with the woman.

### 8.2 Pathological

If the CTG trace is categorised as pathological:

- Obtain a review by an obstetrician and a senior midwife.
- Exclude acute events (for example, cord prolapse, suspected placental abruption or suspected uterine rupture).
- Correct any underlying causes, such as hypotension or uterine hyperstimulation.
- Start one or more conservative measures.
- Talk to the woman and her birth companion(s) about what is happening and take her preferences into account.

If the CTG trace is still pathological after implementing conservative measures:

- Obtain a further review by an obstetrician and a senior midwife
- Offer digital fetal scalp stimulation and document the outcome.

If the CTG trace is still pathological after fetal scalp stimulation, consider:

- Fetal blood sampling **or**
- Expediting the birth

Take the woman's preferences into account.



### 8.3 Suspicious

If the CTG trace is categorised as suspicious:

- Correct any underlying causes, such as hypotension or uterine hyperstimulation.
- Perform a full set of maternal observations.
- Start one or more conservative measures.
- Inform an obstetrician or a senior midwife .
- Document a plan for reviewing the whole clinical picture and the cardiotocography findings.
- Talk to the woman and her birth companion(s) about what is happening and take her preferences into account.

### 8.4 Normal

If the CTG trace is categorised as normal:

- Continue CTG (unless it was started because of concerns arising from intermittent auscultation and there are no ongoing risk factors) and continue usual care.
- Talk to the woman and her birth companion(s) about what is happening.

## 9. Conservative measures

If there are any concerns about the baby's wellbeing, be aware of the possible underlying causes and start one or more of the following conservative measures based on an assessment of the most likely cause(s):

- encourage the woman to mobilise or adopt an alternative position (and to avoid being supine).
- offer intravenous fluids if the woman is hypotensive
- reduce contraction frequency by:
  - reducing or stopping oxytocin if it is being used **and/or**
  - offering a tocolytic drug (a suggested regimen is subcutaneous terbutaline 250 mcg).

Inform a senior midwife or an obstetrician whenever conservative measures are implemented.

### 9.1 Intrauterine resuscitation

Do not use maternal facial oxygen therapy for intrauterine fetal resuscitation, because it may harm the baby (but it can be used where it is administered for maternal indications such as hypoxia or as part of pre-oxygenation before a potential anaesthetic).



Do not offer amnioinfusion for intrauterine fetal resuscitation.

## 9.2 Fetal scalp stimulation

If the CTG trace is pathological, offer digital fetal scalp stimulation. If this leads to acceleration in fetal heart rate, only continue with fetal blood sampling if the cardiotocograph trace is still pathological.

If digital fetal scalp stimulation (during vaginal examination) leads to acceleration in fetal heart rate, regard this as a sign that the baby is healthy. Take this into account when reviewing the whole clinical picture.

## 10. Fetal blood sampling

Do not carry out fetal blood sampling if:

- There is an acute event (for example, cord prolapse, suspected placental abruption or suspected uterine rupture) **or**
- The whole clinical picture indicates that the birth should be expedited **or**
- Contraindications are present, including risk of maternal-to-fetal transmission of infection or risk of fetal bleeding disorders.

Be aware that for women with sepsis or significant meconium, fetal blood sample results may be falsely reassuring, and always discuss with a consultant obstetrician:

- Whether fetal blood sampling is appropriate
- Any results from the procedure if carried out.

Before carrying out or repeating fetal blood sampling, start conservative measures and offer digital fetal scalp stimulation. Only continue with fetal blood sampling if the cardiotocograph trace remains pathological.

When considering fetal blood sampling, take into account the woman's preferences and the whole clinical picture.

When considering fetal blood sampling, explain the following to the woman and her birth companion(s):

- Why the test is being considered and other options available, including the risks, benefits and limitations of each.
- The blood sample will be used to measure the level of acid in the baby's blood, which may help to show how well the baby is coping with labour.
- The procedure will require her to have a vaginal examination using a device similar to a speculum.
- A sample of blood will be taken from the baby's head by making a small scratch on the baby's scalp. This will heal quickly after birth, but there is a small risk of infection.



- What the different outcomes of the test may be (normal, borderline and abnormal) and the actions that will follow each result.
- If a fetal blood sample cannot be obtained but there are fetal heart rate accelerations in response to the procedure, this is encouraging and in these circumstances expediting the birth may not be necessary.
- If a fetal blood sample cannot be obtained and the CTG trace has not improved, expediting the birth will be advised.
- Caesarean section or instrumental birth (forceps or ventouse) may be advised, depending on the results of the procedure.
  
- Do not take a fetal blood sample during or immediately after a prolonged deceleration.
- Take fetal blood samples with the woman in the left-lateral position.
- Use either pH or lactate when interpreting fetal blood sample results.
- Use the following classifications for fetal blood sample result:
  
- pH:
  - normal: 7.25 or above
  - borderline: 7.21 to 7.24
  - abnormal: 7.20 or below**or**
- lactate:
  - normal: 4.1 mmol/l or below
  - borderline: 4.2 to 4.8 mmol/l
  - abnormal: 4.9 mmol/l or above.

Interpret fetal blood sample results taking into account:

- any previous pH or lactate measurement **and**
- the clinical features of the woman and baby, such as rate of progress in labour.

If the fetal blood sample result is abnormal:

- inform a senior obstetrician and the neonatal team **and**
- talk to the woman and her birth companion(s) about what is happening and take her preferences into account **and**
- expedite the birth.

If the fetal blood sample result is borderline and there are no accelerations in response to fetal scalp stimulation, consider taking a second fetal blood sample no more than 30 minutes later if this is still indicated by the CTG trace.

If the fetal blood sample result is normal and there are no accelerations in response to fetal scalp stimulation, consider taking a second fetal blood sample no more than 1 hour later if this is still indicated by the CTG trace.

Discuss with a consultant obstetrician if a third fetal blood sample is thought to be needed.



### **10.1 When a fetal blood sample cannot be obtained**

If fetal blood sampling is attempted and a sample cannot be obtained, but the associated fetal scalp stimulation results in a fetal heart rate acceleration, decide whether to continue the labour or expedite the birth in light of the clinical circumstances and in discussion with the woman and a senior obstetrician.

If fetal blood sampling is attempted but a sample cannot be obtained and there has been no improvement in the CTG trace, expedite the birth.

### **11. End of labour**

Following birth, the healthcare professional should sign and note the date, time and mode of birth on the CTG.

### **12. Support for parents in cases of actual or suspected fetal compromise and poor outcome of baby**

- The cord pH is useful information to have when counselling parents of babies who encounter problems in the neonatal period.
- The neonatologist must be informed in cases of actual or suspected poor outcome for the baby.
- The Consultant Neonatologist and Consultant Obstetrician should meet with the parents to discuss the labour, delivery and the possible prognosis for the baby and the details of what was discussed must be documented in the baby's notes or if the meetings have been performed separately then the Obstetrician should document in the mother's notes.
- Provide parents with information for relevant support groups, if necessary. Where there are communication or language support needs assistance can be obtained via patient advice and liaison service (PALS) and interpretation services.

### **13. Storage of CTGs**

- All CTGs should be stored in brown, sealed envelopes and attached securely to the obstetric notes.
- CTG traces are archived for 25 years and stored electronically via the Huntleigh system.
- In cases where there is concern that the baby may experience developmental delay, photocopy CTG traces and store them indefinitely in case of possible adverse outcomes.



## 14. Record keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.

All entries must have the **date and time** together with **signature and printed name**.

In addition:

Documentation **MUST** include record keeping of:

- The equipment used to auscultate the fetal heart i.e. Sonicaid or Pinard together with reason for choice of equipment.
- Time and length of fetal heart auscultation i.e. before and after contraction.
- Maternal heart rate - recorded on the partogram or written labour record.
- Time and reason for transfer from intermittent auscultation to CTG monitoring.

CTG documentation **MUST** include a record of the above points **AND**:

- CTG traces should be labelled with the mother's name, date, hospital number, and include gestation and maternal pulse.
- The date and time clocks on the EFM machine should be correctly set and the relevant member of staff's signature on the CTG paper is required to confirm.
- Any intrapartum events that may affect the FHR should be noted at the time on the FHR trace, which should be signed and the date and time noted (for example, vaginal examination, FBS or siting of an epidural).
- Full hourly CTG summary using Table 1, Appendix 1.
- Hourly Fresh Eyes summary by a midwife or obstetrician.
- Any member of staff who is asked to provide an opinion on a trace should note their findings on both the trace and the woman's medical records along with the date, time and signature and appropriate management plan in the event that the tracing is assessed as suspicious or pathological.
- Following birth, the healthcare professional should sign and note the date, time and mode of birth on the CTG trace.
- The CTG trace should be stored securely with the woman's medical records at the end of the monitoring process.

Observations throughout labour must be recorded on the partogram or in the written labour records.

All entries must have the date and time together with signature and printed name or an entry in the signature bank on each set of notes.



## Appendix 1

### Table 1. NICE guidelines (2017) for CTG interpretation and classification





Documentation proforma for intrapartum CTG interpretation (based on NICE 2017)					
1). Review the Clinical Picture – Maternal Risks:                      Gestation: Temp and Mat HR:		Fetal Risks: Liquor:		Contraction frequency: Dilatation:	
2). CTG features		Reassuring		Non-reassuring	
Baseline FHR (bpm)	110-160 bpm	100-109 bpm or 161-180 bpm		Less than 100 bpm or more than 180 bpm	
Variability (bpm)	5 -25 bpm	Less than 5 bpm for 30-50 mins More than 25 bpm for 15-25 mins		Less than 5 bpm for more than 50 mins, or More than 25 bpm for more than 25 mins, or sinusoidal pattern	
Accelerations	If present are generally a sign that the baby is healthy Absence of accelerations in otherwise normal CTG does not indicate fetal acidosis				
Decelerations  “Concerning” features of a variable deceleration include: •Last more than 60 seconds •Reduced baseline variability within •Failure to return to baseline •Biphasic (W) shape •No shouldering	None	Variable decelerations with no concerning features for more than 90 mins	Variable Decelerations with any concerning features in up to 50% of contractions for 30 mins or more, or in over 50% contractions for less than 30 mins	Late decelerations in over 50% of contractions for less than 30 mins	Variable decelerations with any concerning feature in over 50% contractions for more than 30 mins
	Early				Late decelerations for 30 mins (less if risk factors present)
	Variable decelerations with no concerning features for less than 90 mins				Acute bradycardia, or single prolonged deceleration lasting 3 mins or more
3) Impression and plan					
Opinion	Normal CTG 4 features reassuring	Suspicious CTG 1 non-reassuring and 2 reassuring features		Pathological CTG 1 abnormal or 2 non-reassuring features	
Management Plan	Continue CTG and normal care	Correct hypotension/hyperstimulation Full set of maternal observations Inform an obstetrician/senior MW Review whole clinical picture and CTG findings and document a plan		Obstetric or senior MW review Exclude acute events Correct hypotension/hyperstimulation Conservative measures Scalp stimulation/FBS Consider delivery	
Date	Time	Signature/Name		Signature/Name	

## Monitoring and Audit

### Auditable standards:

Documented discussion and patient information leaflet re: fetal monitoring and options available.  
 Correct palpation of maternal pulse and documentation  
 Correct auscultation of fetal heart rate and documentation  
 Appropriate transfer from intermittent to continuous electronic fetal monitoring together with documented reason.  
 CTG has mother's name, hospital no, date, time, intrapartum events (recorded at the time of the event with signature and time noted)  
 If an opinion on CTG was sought was this recorded on CTG as well as in health records?  
 Date at end of CTG  
 Hourly systematic assessment of CTG  
 Correct actions taken in event of suspicious or pathological CTG  
 In cases of poor outcome – documentation of discussions with parents and provision of information re: support groups.  
 Documentation of all the above

Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines

### Reports to:

Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit  
 Clinical Governance & Risk Management Committee

### Frequency of audit:

Annually

### Responsible person:

CDS Manager

## Training requirements

Audit of training needs compliance – please refer to TNA policy

### Training needs analysis:

Please refer to 'Training Needs Analysis' guideline together with training attendance database for all staff

## Cross references

Antenatal Guideline 31 - Maternity Hand Held Notes, Hospital Records and Record Keeping  
 Antenatal Guideline 44 – Guideline development within the maternity services

## References

NICE 2001, The Use of Electronic Fetal Monitoring: **The use and interpretation of cardiotocography in intrapartum fetal surveillance.** Clinical effectiveness support group. Royal College of Obstetricians and Gynaecologists, London.  
 NICE, 2007. **Intrapartum care: Care of healthy women and their babies during childbirth.** RCOG, London.  
 NICE 2017. **Intrapartum care for healthy women and babies. Updated Feb 2017**

<b>Author</b>	Alexander Taylor, Consultant Obstetrician. Guideline Committee		
<b>Work Address</b>	Maternity Unit, Derriford Hospital, Plymouth, Devon, PL6 8DH		
<b>Version</b>	8		
<b>Changes</b>	Fresh eyes on CDS Updated in line with Nice guidelines 2017 The use of a commode with CEFM		
<b>Date Ratified</b>	August 2017	<b>Valid Until Date</b>	August 2022