

## Fetal Heart Rate Monitoring

### How will my baby's heartbeat be monitored in labour?

Various checks will be offered to you and your baby in labour. This will include listening to, or monitoring your baby's heartbeat.

### What are the benefits of monitoring my baby's heartbeat in labour?

Most babies go through labour without problems but there are a few who do not cope so well. During contractions blood flow slows to the placenta (afterbirth). This is normal and most babies cope without having any problems. If your baby is not coping well this can be reflected in the heartbeat pattern.

One of the best ways of finding out if your baby is having difficulties is to listen to his/her heartbeat regularly throughout your labour. This is known as Fetal Heart rate monitoring.

### How can my baby's heart beat be monitored?

Your baby's heartbeat can be monitored intermittently using the two devices below – this is called intermittent auscultation



Using a pinard stethoscope



Using a sonic aid/ Fetal Doppler

Alternatively your baby's heart rate can be monitored continuously (known as electronic fetal monitoring).



Using a cardiotocograph machine or CTG for short.

However - If you have chosen to have your baby at home or at our midwifery led unit only intermittent monitoring is available (see below)

### Intermittent auscultation

Before starting any monitoring your midwife will record your heartrate (by taking your pulse) as well as your baby's to make sure they can tell them apart.

The midwife will use either the:

- Pinard (trumpet shaped stethoscope), See above
- Hand held doppler (an ultrasound device which looks like a microphone) see above

These two instruments will enable your midwife to hear your baby's heartbeat through your tummy.

If your pregnancy is classified as low risk your baby's heartbeat will be listened to approximately every 15 minutes during the first stage of labour and then increased to every five minutes for the second stage of labour using the pinard or the sonic aid/doppler.

### What are the benefits of intermittent auscultation?

The benefits of intermittent auscultation include being able to move around freely and not being attached to a machine. Your movement is only limited while the heartbeat is being listened to.

### What are the risks of intermittent monitoring?

If you are healthy and have had a low risk pregnancy this is the usual method of monitoring. This is because it achieves a balance between detecting babies that are not coping well with labour whilst reducing the risk of unnecessary interventions (such as caesarean section).

There are no research studies that compare the effectiveness of intermittent versus continuous monitoring in babies for whom there were pregnancy complications. A baby whose mother has complications in pregnancy may be at greater risk of developing problems in labour. For this reason we recommend continuous monitoring in labour for women with complicated/high risk pregnancies.

### Continuous electronic fetal monitoring

Continuous monitoring records your baby's heartbeat for the whole of labour. The equipment used for continuous monitoring is called a cardiotocograph (CTG see page 1). The monitor has two sensors held against your abdomen (tummy) by elasticated belts. These sensors detect your baby's heartbeat and frequency of contractions and are connected to the machine. The monitor records the baby's heartbeat pattern (and contractions) on a strip of paper. This is called a 'trace' or 'CTG.'

Your midwife or doctor will then read or interpret the pattern, gaining information as to your baby's well being in labour. The trace can be explained to you and your partner at any time.

### What are the benefits of continuous monitoring?

If the need arises during pregnancy or labour that suggests the need to continuously monitor your baby, your midwife or doctor will then be able to observe your baby's heartbeat during the whole of labour which will give them key information about how your baby is coping with the labour.

A few reasons why continuous electronic monitoring is recommended	
If you have a health issue such as:	Current pregnancy
<ul style="list-style-type: none"> <li>• Diabetes.</li> <li>• Infection.</li> <li>• Pre-eclampsia (raised blood pressure / protein in the urine etc.)</li> <li>• heart or kidney problems</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple pregnancy i.e. twins.</li> <li>• Small baby.</li> <li>• Using the syntocinon Hormone drip to improve the strength and frequency of your contractions</li> <li>• Baby has opened his/her bowels in the waters (meconium stained liquor).</li> <li>• Your baby is going to be born bottom first (breech).</li> <li>• Under 37 weeks or over 42 weeks when in labour</li> <li>• Not enough or too much water around your baby inside the womb.</li> <li>• Any bleeding antenatally or in labour</li> <li>• Prolonged rupture of membranes (waters broken over 24 hours)</li> <li>• In some cases if you are having your labour induced</li> <li>• If you choose to have continuous monitoring</li> </ul>
<b>Previous History</b> <ul style="list-style-type: none"> <li>• You have had a previous caesarean section.</li> </ul>	
Other concerns discovered	
<ul style="list-style-type: none"> <li>• A possible heartbeat problem has been picked up using intermittent auscultation which requires further investigation (this does not always lead to continuous monitoring and may only require a trace of limited time to be carried out).</li> </ul>	

## What are the disadvantages of continuous monitoring?

Being attached to the monitor can limit your mobility. It should be possible to stand up or sit down, use the birthing ball, bean bags and mats even while attached to the monitor as the leads are reasonably long. The Conquest Delivery Suite has telemetry monitoring equipment, if available your midwife will be able to use this to monitor your baby and you will be able to be more mobile as there are no leads to attach to the monitor.

There are a number of technical issues that can affect the interpretation of a fetal heart rate tracing which can on rare occasions lead to errors in interpretation (this is true of both forms of monitoring). Very rarely the trace can reassure your midwife or doctor that your baby is coping when it is not. Also, occasionally the trace can make your midwife or doctor suspect that your baby is not coping well when in fact he/she is fine. This could lead to you having a caesarean section when it may not have been needed. If this is suspected the team of obstetricians and midwives caring for you and your baby will discuss any change in your plan of care with you and your partner.

## What happens if a problem is suspected?

The trace (CTG) may indicate that your baby is not coping well. If this happens further action may be taken. This could include a test called Fetal Blood Sampling or immediate delivery of your baby if a change of position or increased fluids does not improve the trace.

## What is fetal blood sampling?

Fetal Blood Sampling helps to inform the doctors and midwives how your baby is coping and avoid you having an unnecessary intervention like an caesarean section.

Fetal Blood Sampling involves taking one or two drops of blood from your baby's scalp (through the vagina). The blood is tested for oxygen and acidity levels which may indicate how well your baby is coping. The test can take about ten minutes and the result is known within approximately another 5-10 minutes.

There are certain reasons why fetal blood sampling is not appropriate for you, for example if you have certain infections. Your midwife or doctor will discuss this with you.

## What is a Fetal Scalp Electrode (FSE)?

Sometimes it maybe difficult for the transducers to record the baby's heart rate through your tummy; in this circumstance the midwife may consider applying a fetal scalp electrode to your baby's head. This is only done with your consent and the reasons for doing this will be discussed with you. The FSE is applied by your midwife or doctor during a vaginal examination it is applied to the baby's head and the lead is then connected to the monitor, this method monitors the baby's heartbeat more directly and it can stay in place until the baby is born.

## What are the risks of not monitoring my baby's heartbeat in labour?

You can choose not to have your baby's heartbeat monitored however this would mean that we would not be able to tell whether or not your baby is coping with labour. The risk of this is that if your baby was having any problems we would not know about it. Some of these problems could affect your baby's health or even be life threatening for your baby.

## Sources of information

[www.nice.org.uk](http://www.nice.org.uk) and search intrapartum care [www.infochoice.org](http://www.infochoice.org)

This leaflet was put together by the Guidelines Implementation Group and the Women's Focus group and is based on the NICE Intrapartum care: Care of a Healthy Women and their babies during childbirth December 2014

## Sources of information

E.g. specialist nurse, ward, consultant secretary, self-help group, national bodies or Web site addresses.

## Important information

This patient information is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

## Your comments

We are always interested to hear your views about patient information. If you have any comments please contact our Patient Advice and Liaison Service (PALS) – details below.

## Hand hygiene

The trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

## Other formats

This information is available in alternative formats such as large print or electronically on request. Interpreters can also be booked. Please contact the Patient Advice and Liaison Service (PALS) offices, found in the main reception areas:

### Conquest Hospital

Email: [palsh@esht.nhs.uk](mailto:palsh@esht.nhs.uk) - Telephone: **01424 758090**

### Eastbourne District General Hospital

Email: [palse@esht.nhs.uk](mailto:palse@esht.nhs.uk) - Telephone: **01323 435886**

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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## Reference

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The following clinicians have been consulted and agreed this patient information:  
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The directorate group that have agreed this patient information leaflet:  
Guideline implementation group

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