

Fetal Heart Rate Monitoring

What is fetal heart rate monitoring?

Fetal heart rate monitoring is the process of checking the condition of your baby during labor and delivery by monitoring his or her heart rate with special equipment.

Why is fetal heart rate monitoring done during labor and delivery?

Fetal heart rate monitoring may help detect changes in the normal heart rate pattern during labor. If certain changes are detected, steps can be taken to help treat the underlying problem. Fetal heart rate monitoring also can help prevent treatments that are not needed. A normal fetal heart rate can reassure both you and your health care provider that it is safe to continue labor if no other problems are present.

What are the types of monitoring?

There are two methods of fetal heart rate monitoring in labor. **Auscultation** is a method of periodically listening to the fetal heartbeat. **Electronic fetal monitoring** is a procedure in which instruments are used to continuously record the heartbeat of the fetus and the contractions of the mother's uterus during labor. The method that is used depends on your health care provider's or hospital's policy, your risk of problems, and how your labor is going. If you do not have any complications or risk factors for problems during labor, either method is acceptable.

How is auscultation performed?

Auscultation is done with either a special stethoscope or a device called a **Doppler transducer**. When the transducer is pressed against your abdomen, you can hear your baby's heartbeat.

When auscultation is used, your health care provider will check the heart rate of the baby at set times during labor. If you have risk factors for problems during labor or if problems appear during labor, the fetal heart rate will be checked and recorded more frequently.

How is electronic fetal monitoring performed?

Electronic fetal monitoring uses special equipment to measure the response of the baby's heart rate to contractions of the uterus. It provides an ongoing record that can be read by your health care provider. Your health care provider will review the electronic recording of the baby's heartbeat (called the fetal heart rate tracing) at set times. The tracing may be reviewed more frequently if problems arise.

Electronic fetal monitoring can be external, internal, or both. You may need to stay in bed during both types of electronic monitoring, but you can move around and find a comfortable position.

How is external monitoring performed?

With this method, a pair of belts is wrapped around your abdomen. One belt uses Doppler to detect the fetal heart rate. The other belt measures the length of contractions and the time between them.

How is internal monitoring performed?

With this method, a wire called an **electrode** is used. It is placed on the part of the baby closest to the **cervix**, usually the scalp. This device records the heart rate. Uterine contractions also may be monitored with a special tube called an intrauterine pressure catheter that is inserted through the vagina into your uterus. Internal monitoring can be used only after the membranes of the **amniotic sac** have ruptured (after "your water breaks" or is broken).

What happens if the fetal heart rate pattern is abnormal?

Abnormal fetal heart rate patterns do not always mean there is a problem. Other tests may be done to get a better idea of what is going on with your baby.

If there is an abnormal fetal heart rate pattern, your health care provider will first try to find the cause. Steps can be taken to help the baby get more oxygen, such as having you change position. If these procedures do not work, or if further test results suggest your baby has a problem, your health care provider may decide to deliver the baby right away. In this case, the delivery of the baby is more likely to be by **cesarean birth** or with **forceps** or **vacuum extraction**.

Glossary

Amniotic Sac: Fluid-filled sac in the mother's uterus in which the fetus develops.

Auscultation: A method of listening to internal organs, such as the fetal heart during labor.

Cervix: The opening of the uterus at the top of the vagina.

Cesarean Birth: Birth of a baby through incisions made in the mother's abdomen and uterus.

Doppler Transducer: A device that uses sound waves to reflect motion—such as the fetal heartbeat—in the form of signals that can be heard.

Electrode: A small wire that is attached to the scalp of the fetus to monitor the heart rate.

Electronic Fetal Monitoring (EFM): A method in which electronic instruments are used to record the heartbeat of the fetus and contractions of the mother's uterus.

Forceps: Special instruments placed around the baby's head to help guide it out of the birth canal during delivery.