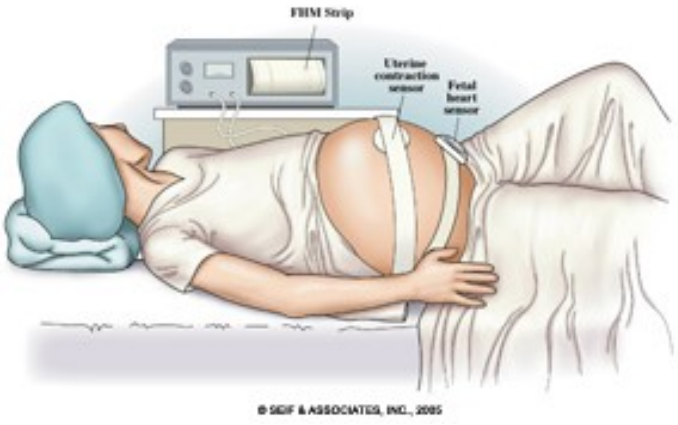
# Fetal Monitoring - Non Stress Testing
## (How Your Baby Is Doing)

The nonstress test (NST) is a procedure that monitors the increase of the fetal heart rate in response to the fetal movement. An increase in the fetal heart rate during fetal movement shows that the pregnancy is normal. The increase also shows the well-being of the baby's central nervous system. Fetal activity may be spontaneous, induced a by uterine contraction, or induced by external stimulation with an artificial voice box. Oxytocin stimulation is not used in this procedure. This test is also done to see if there are problems with the pregnancy and the baby. Identifying and correcting problems may prevent serious problems from developing with the fetus, including fetal loss.




### OTHER TECHNIQUES OF MONITORING YOUR BABY PRIOR TO BIRTH:

- **Fetal movement assessment**. This is done by the pregnant woman herself by counting and recording the baby's movements over a certain period of theme.
- **Contraction stress test (CST)**. This test monitors the baby's heart rate during a contraction of the uterus.
- **Fetal biophysical profile (BPP)**. This measures and evaluates 5 observations of the baby:
  - The nonstress test.
  - The baby's breathing.
  - The baby's movements.
  - The baby's muscle tone.
  - The amount of fluid in the amniotic sac.
- **Modified biophysical profile**. This measures the volume of fluid in different parts of the amniotic sac (*amniotic fluid index*) and the results of the nonstress test.
- **Umbilical artery doppler velocimetry**. This evaluates the blood flow through the umbilical cord.

There are several very serious problems that cannot be predicted or detected with any of the fetal monitoring procedures. These problems include separation (*abruption*) of the placenta and choking of the baby with the umbilical cord (*umbilical cord accident*).

Your caregiver will help you understand the tests and what they mean for you and your baby. It is your responsibility to obtain the results of your test.

### PREPARATION FOR THE TEST

- **Do not** take medications that may increase or decrease the baby's heart rate and/or movements.
- Have a full meal at least 2 hours before the test.
- **Do not** smoke if you are pregnant. If you smoke, stop at least 2 days before the test. It is a good idea not to smoke at all when you are pregnant.

### LET YOUR CAREGIVER KNOW:

- Any medications you are taking including prescription and over-the-counter drugs, herbs, eye drops and creams.
- If you have a fever.
- If you have an infection.
- If you are sick.

## RISKS AND COMPLICATIONS

There are no risks or complications to the mother or fetus with this test.

## NONSTRESS TEST

The NST is based on the idea that the heart rate of a normal baby will speed up while the baby is moving around. This is an indicator of a normal working pregnancy. Loss of movement is seen commonly while the baby is sleeping or if there are problems in the pregnancy. Smoking may hurt test results.

- With the patient lying on her side, the fetal heart rate is checked with an electrode on the belly.
- The line drawn from a recording instrument (*tracing*) is observed for fetal heart rate accelerations that speed up at least 15 beats per minute above resting, and last 15 seconds. Tracings of 40 minutes or longer may be necessary.
- Sound stimulation of the healthy fetus may speed up a baby's heart. This also means the baby is healthy. Stimulation helps to reduce testing time and helps find problems in the pregnancy if there is any. To do this, an artificial voice box is put on the mother's belly for about 12 seconds. This may be repeated up to 3 times for progressively longer durations.
- Results are categorized as normal (*reactive*) or abnormal (*nonreactive*). Commonly, the NST is considered normal (*reactive*) if there are 2 or more fetal heart rate accelerations as described inside a 20-minute period. This is with or without fetal movement the mother feels. A nonreactive NST is one that does not have enough fetal heart rate accelerations over a 40 minute period.
- Abnormal testing may need further testing.
- Your caregiver will help you understand your tests and what they mean for you and your baby.

**It should be noted also that:**

- The NST can be nonreactive 50% of the time in weeks 24 to 28 of a normal pregnancy.
- The NST can be nonreactive 15% of the time in weeks 28 to 32 of a normal pregnancy.
- Lower fetal heart rate (*decelerations*) may be seen in 50% of NST's, but if they are consistent (3 in 20 minutes), it increases the risk for Cesarean section.
- Decelerations of the fetal heart rate that last for one minute or longer indicates a very serious problem with the baby and a Cesarean section may be needed right away.

## AFTER THE PROCEDURE

You may go home and resume your usual activities, or as directed by your caregiver.

## HOME CARE INSTRUCTIONS

- Follow your caregiver's advice and recommendations.
- Beware of your baby's movements. Are they normal, less than usual or more than usual?
- Make and keep the rest of your prenatal appointments.

## SEEK MEDICAL CARE IF:

- You develop a temperature of 100º F (37.9º C) or higher.
- You have a bloody mucus discharge from the vagina (a *bloody show*).

## SEEK IMMEDIATE MEDICAL CARE IF:

- You do not feel the baby move.
- You think the baby's movements are less than usual or more than usual.
- You develop contractions.
- You develop vaginal bleeding.
- You develop belly (*abdominal*) pain.
- You have leaking or a gush of fluid from the vagina.

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