

Nonreassuring Fetal Status

What is nonreassuring fetal status?

Nonreassuring fetal status (NRFS) is a term that may be used to describe a baby's health late in the pregnancy or during labor. It is used when test results suggest that the baby may not be getting enough oxygen.

What is the cause?

The baby gets oxygen from the mother's blood as the baby's blood passes through the placenta. NRFS may happen if:

- There is a problem with the blood flow to the placenta.
- Not enough oxygen is crossing from the placenta to the baby.
- Blood flow from the placenta to the mother is blocked.

For example, NRFS may occur when:

- There is too much or too little amniotic fluid.
- The umbilical cord is pinched, flattened, or twisted.
- Labor contractions are too strong, too long, or too frequent. Sometimes this may result from the use of medicines to help labor, such as oxytocin.
- The mother has been given anesthetic medicine to relieve pain. The medicine may lower the mother's blood pressure. This may reduce the supply of blood and oxygen to the placenta, which means that the baby gets less blood and oxygen.
- The mother is lying on her back, putting pressure on the major blood vessels, which can change blood flow to the uterus.
- The mother has medical problems, such as heart, lung, or kidney problems.
- The mother has pregnancy complications, like high blood pressure or placental abruption (early separation of the placenta).
- The baby has a genetic problem or has not developed normally.

What are the symptoms?

The mother may have no symptoms.

The following signs may mean that the baby is not getting enough oxygen:

- The baby is moving less.
- The baby has an abnormal heart rate.
- Bowel movement from the baby (called meconium) is found in the amniotic fluid when the membranes (bag of waters) rupture.

A heart rate that is too slow, too fast, or irregular doesn't always mean there is a problem. The baby is usually OK. For example, sometimes when the baby's head is squeezed during a contraction or delivery, the baby will have a reflex that causes the heart rate to change. The delivery team will keep checking the baby's

heart rate during labor to see if it stays abnormal and is possibly a sign of problems.

How is it diagnosed?

NRFS may be discovered from tests of the baby late in pregnancy or during labor and delivery.

The following tests of the baby's health might be done before you go into labor:

- An ultrasound test called a biophysical profile checks the baby's breathing movements, body movements, heart rate, and muscle tone. It also is a way to see how much amniotic fluid there is.
- A nonstress test checks the baby for a short time to see if his or her heart rate changes when the baby moves. Certain patterns are seen with a healthy baby. They are different from the patterns seen when a baby may have a problem inside the uterus.
- A contraction stress test is another test that may be done. During this test, you are given medicine to cause contractions and the baby's heart rate is checked during contractions of the uterus.

During labor and delivery:

- The baby's heart rate is usually watched with an electronic external or internal fetal monitor.
- A sample of blood from the baby's scalp may be tested during labor if there is concern about how the baby is doing during labor. This test is called fetal scalp sampling. Sometimes if the baby is not getting enough oxygen, there may be more acid in the baby's blood and so the baby's pH may be lower than normal.

How is it treated?

The goal of treatment is to get more oxygen to the baby. If there are signs that the baby may not be getting enough oxygen, your healthcare provider will try to find the cause and fix it.

The following may be done to try to increase your oxygen level and improve blood flow to the uterus and the baby:

- Your healthcare provider may ask you to lie on your left side. The large blood vessels near the spine are less likely to be pressed by the uterus in this position.
- You may be given intravenous (IV) fluids or blood if your blood pressure drops during labor or if you are bleeding a lot.
- You may be given extra oxygen so more oxygen can get to the baby.
- If oxytocin is being used to start or help your labor, the drug may be stopped or the dose lowered so that your contractions aren't as close together or as long.
- You may be given medicine to relax the uterus and stop contractions.
- If the baby's heart rate shows that the umbilical cord may be pinched, your healthcare provider may ask you to change your position. Raising the foot of

the bed or getting on your hands and knees may help get the baby off the umbilical cord.

- If there is not enough fluid in the baby's sac, a salt solution may be put into the sac to cushion the umbilical cord.
- If your blood pressure drops because of the anesthetic you were given, you may get more fluids in the IV and possibly medicine for your blood pressure.

If these treatments don't correct the problem, the baby may need to be delivered right away. If the cervix is completely dilated and the baby is far enough down in the birth canal, vaginal delivery with forceps or a vacuum extractor may be possible. Otherwise, a cesarean delivery (C-section) may be done.

The newborn will be examined right away and watched closely for problems. The baby may need to stay in the intensive care nursery for some problems.

How long will the effects last?

For most babies, NRFS has no long-term effects after birth. However, a lack of oxygen over a long time may hurt a baby. This can very rarely cause the baby to have mild learning disabilities, or, even more rarely, it might cause more severe problems, such as cerebral palsy, intellectual disability, or even death. It may be very hard to determine if NRFS during labor is the cause of a baby's problems later in life.

What can be done to help prevent NRFS?

Many problems can be prevented with careful management during labor and delivery. This may include a fetal monitor to keep track of contractions and how the baby is doing during labor. However, not all problems can be prevented. Sometimes something may have happened to the baby that could not be detected earlier in the pregnancy.

Developed by RelayHealth.

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