

### **What happens if the quad marker screen results are abnormal?**

Quad marker screen results that are not in the normal range do not necessarily mean there is a problem in your pregnancy.

The quad marker screen is used for screening only, which means it can only assess your risk of having a baby with a certain birth defect. It does not mean that the baby is affected. If the quad marker screen results are not in the normal range, further tests such as ultrasound or amniocentesis may be necessary.

Out of 1,000 pregnant women, approximately 50 will have quad marker screen results that indicate an increased risk for having a baby with an open neural tube defect. Of those 50 women, only one or two will actually have a baby with an open neural tube defect.

About 40 women will have quad marker screen results that show an increased risk for having a baby with Down syndrome and one or two will actually have a baby with Down syndrome.

### **What does a negative or normal test mean?**

A negative result means that your chances of having a baby with an open tube defect, Down syndrome, or trisomy 18 is not more than average. A screening test can never completely rule out the chance of the baby having any birth defect.

### **What is the follow up for a positive test?**

A woman who has a positive screen is often sent to a Maternal-Fetal Medicine specialist, or a doctor who sees women with high-risk pregnancies. The Quad Marker results are explained in more detail at this appointment. You will be able to ask questions, and discuss the test results. Also during this visit, an ultrasound is done, followed by a discussion with the doctor. Some parents then choose to have an amniocentesis, which is a way to get cells from the fluid that surrounds the baby. This is used to test the baby's chromosomes.

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Pregnancy Screening:

## **Quad Marker Screen**

*The facts you  
need to know.....*

## What is a Quad Marker Screen?

The quad marker screen is a blood test that provides a woman and her health care provider with useful information about her pregnancy. The quad marker screen must be performed between the 15th and 20th weeks of pregnancy.

Substances in the blood sample are measured to screen for:

\* Problems in the development of the fetus' brain, spinal cord and other neural tissues of the central nervous system (neural tube). Problems with neural tube development can occur as spina bifida or anencephaly (absence of all or part of the brain). Neural tube defects occur in 1 or 2 out of every 1,000 births. The quad marker screen can detect approximately 75 percent of open neural tube defects.

\* Genetic disorders such as Down syndrome, a chromosomal abnormality. Approximately 1 in 720 babies is born with Down syndrome. The quad marker screen can detect approximately 75 percent of Down syndrome cases in women under age 35 and 85 to 90 percent of Down syndrome cases in women age 35 years and older.

## How is the test done?

A small amount of blood is taken from your arm with a needle between the 15<sup>th</sup> and 20<sup>th</sup> weeks of pregnancy. Results are usually back between 1 to 3 weeks.

## Do I need to have the quad marker screen?

Most health care providers recommend that all pregnant women have a quad marker screen, but it is your decision whether or not to have the test. However, if you have any of the following risk factors, you may strongly want to consider having the test:

- You are age 35 or older when the baby is due
- Your family has a history of birth defects
- You've had a child with a previous birth defect
- You have had insulin-dependent (type 1) diabetes prior to your pregnancy

## What Substances Are Measured During a Quad Marker Screen?

The blood sample is sent to a laboratory and tested for the presence of the following four substances, which are normally found in the baby's blood, brain, spinal fluid and amniotic fluid:

**Alpha-fetoprotein (AFP).** A protein produced by the baby's liver.

**Unconjugated Estriol (UE).** A protein produced in the placenta and in the baby's liver.

**Human Chorionic Gonadotropin (hCG).** A hormone produced by the placenta.

**Inhibin-A.** A hormone produced by the placenta.

## Is the Quad Marker Screen Safe?

Yes. The quad marker screen is a safe and useful screening test for families concerned about birth defects or genetic diseases. It is a test that carries no risk to the baby, since a blood sample is taken only from the mother.