

If Quad Screening indicates an increased risk for a birth defect, what will happen?

You and your doctor will discuss your Quad Screening result, as well as your options. These may include having a repeat blood test or an ultrasound to confirm how far along you are. In some cases, your doctor may offer more definitive testing. In some situations, this can be done by a special blood test that looks at the fetal DNA that is naturally present in the mother's blood.

In other cases, an amniocentesis might be offered. Amniocentesis is performed by removing a small amount of the fluid that surrounds the fetus in the womb. The fetal chromosomes in this fluid can then be examined to check for Down syndrome and Trisomy 18. Testing can also be done to detect neural tube defects and abdominal wall defects.

You may be referred to the Reproductive Genetics Program for further information about your test results and about the follow-up testing options. Remember, most women who have further testing get normal results and have healthy babies.



More Questions?

If you have further questions about Quad Screening, discuss them with your doctor or call (585) 487-3480.

Prenatal Screening Program
University of Rochester Medical Center
601 Elmwood Avenue, Box 668
Rochester, NY 14642



2nd Trimester Quad Screen

Prenatal Screening
Program



Quad Screening

Would you want to take a simple test to let you know if you have a higher than average chance of having a baby with certain birth defects?

If you were told you had an increased risk, would you want further testing to tell for sure?

If you answered yes to these questions, you should consider Maternal Serum Quad Screening.

What is Quad Screening?

Quad Screening measures the levels of certain substances (alpha-fetoprotein “AFP;” unconjugated estriol, human chorionic gonadotropin and Inhibin-A) in a pregnant woman’s blood. These substances come from the fetus and placenta and are found in the blood of all pregnant women. It is normal for the levels of these substances to vary among different women, but some women with particularly high or low values may be at increased risk for having a baby with certain birth defects.

The Quad Screen is called a “screening” test because it cannot tell for certain whether the fetus does or does not have a birth defect. It can identify women who have a greater than average risk for having a baby with certain birth defects. These women may then choose to have other tests (such as ultrasound, more advanced blood tests or amniocentesis) that can help tell with greater certainty if a birth defect is present. About seven out of every 100 women who have Quad Screening will need some further testing, but most of the time those women will deliver a normal, healthy baby.



Since 1985, more than 100,000 women have been screened by UR Medicine’s Prenatal Screening Program. We are dedicated to providing the most accurate screening results to pregnant women throughout the region and helping patients and doctors explore follow up options when needed.

What birth defects can be detected by Quad Screening?

Neural tube defects (spina bifida and anencephaly)

Neural tube defects occur in only about one pregnancy out of every 1,000. They are birth defects in which the brain (anencephaly) or part of the spinal cord (spina bifida) does not form normally and may not be covered with skin or bone. Some babies with neural tube defects are stillborn or die shortly after birth. Children who survive usually have medical problems, some more severe than others. Complications may include infections, hydrocephalus (“water on the brain”) and sometimes learning problems or intellectual disabilities. Spina bifida often results in paralysis of the legs and impaired bladder and bowel control. Elevated levels of AFP may indicate an increased risk for a fetus with a neural tube defect.

Abdominal Wall Defects

These birth defects are somewhat less common than neural tube defects. They are caused by an opening in the layer of muscle and skin near the belly button. Although these defects can be serious, they can usually be corrected with surgery. Elevated levels of AFP may also indicate an increased risk for an abdominal wall defect.

Down Syndrome

Down syndrome is a condition where the fetus has an extra 21st chromosome. Therefore, there are 47 chromosomes instead of the normal 46. The chromosomes contain the genetic material that determines our inherited characteristics. Down syndrome results in intellectual disabilities and sometimes in physical problems such as heart

defects. Although the risk of having a child with Down syndrome is higher in older women, it also can occur in young women. The Quad Screen is used to indicate whether a woman is at an increased risk for having a baby with Down syndrome. If the Quad Screen indicates that the chance for Down syndrome is high enough, further testing may be recommended.

Trisomy 18

Trisomy 18 is caused by an extra 18th chromosome. It is a very severe birth defect causing many health problems and severe intellectual disabilities. The Quad Screen indicates an increased risk for Trisomy 18 in only about one out of every 200 women, and these women can have further testing to know for sure if the baby is healthy.

What factors might influence the Quad Screening result?

Many factors must be taken into consideration to know if your Quad Screening results are normal for you. These include how far along you are in your pregnancy, your weight, your race and whether or not you are carrying twins. Things such as your diet, the number of times you have been pregnant or the results of other blood tests do not affect the Quad Screen.

When should Quad Screening be done?

Quad Screening is best performed between 15-18 weeks from the beginning of the last menstrual period.

If the Quad Screen is normal, can the mother be certain everything is all right?

The answer is “no.” Although results of Quad Screening are useful, they do not guarantee a healthy baby. Quad Screening is a screening test and will detect approximately 90 percent of fetuses with open neural tube defects and approximately 75 percent of fetuses with Down syndrome. There are other kinds of problems that Quad Screening cannot detect. But remember, most babies are born healthy.