



Memo to: Healthcare Personnel  
From: Alverno Clinical Laboratories General Laboratory  
Subject: **New test - Maternal Quad Screening**

Alverno Clinical Laboratories is proud to announce the addition of the maternal quad screen to its test menu. The quad screen test is a maternal blood screening test that looks for four specific substances: AFP, hCG, Estriol, and Inhibin-A.

**AFP:** *alpha-fetoprotein* is a protein that is produced by the fetus

**hCG:** *human chorionic gonadotropin* is a hormone produced within the placenta

**Estriol:** *estriol* is an estrogen produced by both the fetus and the placenta

**Inhibin-A:** *inhibin-A* is a protein produced by the placenta and ovaries

The screen is essentially the same as the screening tests that look for only three substances, except the likelihood of identifying pregnancies at risk for Down Syndrome is higher through the evaluation of Inhibin-A levels. The false positive rate of the test is also lower.

It is very important to remember what a screening test is before getting one performed. This will help alleviate some of the anxiety that can accompany test results. Screening tests do not look only at results from the blood test. They compare a number of different factors (including age, ethnicity, results from blood tests, etc...) and then estimate what a person's chances are of having an abnormality. These tests DO NOT diagnose a problem; they only signal whether further testing should be done.

The quad screen test is performed between the 16th and 18th week of pregnancy. All pregnant women should be offered the quad screen, but it is recommended for women who:

- Have a family history of birth defects
- Are 35 years or older
- Used possible harmful medications or drugs during pregnancy

- Have diabetes and use insulin
- Had a viral infection during pregnancy
- Have been exposed to high levels of radiation

The quad screen detects high and low levels of AFP, abnormal levels of hCG and estriol, and high levels of Inhibin-A. The results are combined with the mother's age and ethnicity in order to assess probabilities of potential genetic disorders.

High levels of AFP may suggest that the developing baby has a neural tube defect such as [spina bifida](#) or anencephaly. However, the most common reason for elevated AFP levels is inaccurate dating of the pregnancy.

Low levels of AFP and abnormal levels of hCG and estriol may indicate that the developing baby has Trisomy 21(Down Syndrome), Trisomy 18 (Edwards Syndrome) or another type of chromosome abnormality. High levels of Inhibin A may indicate that the developing baby has Trisomy 21 as well and are considered in the context of other data to estimate a risk of Down Syndrome existing in the baby.

It is important to remember that the quad screen is a screening test and not a diagnostic test. This test only notes that a mother is at risk of carrying a baby with a genetic disorder. Many women who experience an abnormal test result go on to deliver healthy babies.

**Specimen type:** serum

**Specimen stability:** 8hrs at Room Temperature; 48 hrs Refrigerated; >48 hrs Freeze

**Unacceptable specimens:** hemolyzed and/or lipemic serum

The Soft order code is ...**QUAD**