

The Maternal Serum Alpha Fetoprotein (MSAFP) Test

What is the MSAFP test?

The MSAFP (AFP for short) is a blood test on a pregnant patient which may help the doctor identify the risk of open neural tube defects (ONTD) in the baby.

What is an ONTD?

An ONTD is failure of the neural tube to close properly in the developing fetus. The neural tube is the organ that will develop into the brain and spinal cord. This occurs in about 1 in 1000 births in the US. The risk is higher in diabetic mothers, pregnant patients taking antiepileptic medications and pregnant patients with inadequate folic acid intake.

There are two main types of ONTDs:

Spina Bifida: This is an incomplete closure of the spinal cord. The severity depends on the location of the defect. This may result in paralysis, urinary tract problems, mental retardation and hydrocephalus (water on the brain). Spina Bifida may result in childhood death or major disabilities. Modern surgical techniques with corrective therapy can help some children with spina bifida lead normal and productive lives.

Anencephaly. This is a failure of parts of the skull, brain and spinal cord to form. This is a lethal defect and incompatible with life.

How is MSAFP testing done?

The MSAFP blood test is drawn on the pregnant patient between 15 and 20 weeks of pregnancy.

What do the test results mean?

If the blood test shows a low risk of ONTD, then no further testing is recommended. However, if the test result is high (> 2.0 to 2.5 MoM), then further evaluation is indicated. This will generally include a sonogram at around 20 weeks and a referral to a high risk pregnancy specialist (maternal fetal medicine) for consultation and sonogram.