

Maternal serum alpha-fetoprotein

A high maternal [serum alpha-fetoprotein](#) (≥ 2 multiples of the median for the appropriate week of [gestation](#)) between 15 and 20 weeks gestation carries a relative risk of 224 for [neural tube defects](#), and an abnormal value (high or low) was associated with 34% of all major [congenital defects](#) ¹⁾.

The sensitivity of maternal serum AFP for [spina bifida](#) was 91% (10 of 11 cases), it was 100% for 9 cases of [anencephaly](#). However, other series show a lower [sensitivity](#). Closed lumbosacral spine defects, accounting for $\approx 20\%$ of [spina bifida](#) patients, ²⁾ will probably be missed by serum AFP screening, and may also be missed on [ultrasound](#). Since maternal serum AFP rises during normal [pregnancy](#), an overestimate of gestational age may cause an elevated AFP to be interpreted as normal, and an underestimate may cause a normal level to be interpreted as elevated ³⁾.

A 2nd-trimester maternal serum alpha-fetoprotein (MSAFP) level $>3.8\text{MoM}$ in a [fetus](#) with an [open neural tube defect](#) (ONTD) is associated with mid-gestation [ventriculomegaly](#) ⁴⁾.

References

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