

## Second trimester screening still necessary

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Pregnant women are not receiving screening for spina bifida in the second trimester of their pregnancies, and 11.4 percent of infants born with the defect in the neural tube are not identified before birth, according to a study by researchers at Baylor College of Medicine that was recently in the *American Journal of Perinatology*.

"Nine out of the 12 cases in the study of prenatally-missed spina bifida were not screened by a blood test that identifies levels of a chemical called maternal serum alpha-fetoprotein," said Dr. Kjersti Aagaard, associate professor of obstetrics and gynecology at Baylor. "A high level of alpha-fetoprotein is indicative of a [neural tube](#) defect."

Spina bifida is a neural tube defect where the column of the spine and the surrounding membranes are incomplete, exposing the spinal cord. A federal effort to fortify foods containing grains with folic acid or folate, which is essential in development, has reduced the incidence of this [birth defect](#) significantly.

Although the number of cases has decreased, this finding has broad public health implications because more than 1,500 infants with [spina bifida](#) and other neural tube defects are born each year in the United States, said Dr. Diana Racusin, fellow in maternal-fetal medicine at Baylor and first author of the study.

The study shows that patients are forgoing blood tests in the second trimester quad screen, which looks for alpha- fetoprotein as well as [human chorionic gonadotropin](#) (a hormone produced by the placenta),

estriol (estrogen produced by the fetus and placenta) and Inhibin-A (a protein produced by the placenta and ovaries), for blood screenings done earlier that do not identify maternal serum alpha-fetoprotein.

"The first trimester screening tells nothing about [neural tube defects](#) because it is too early to draw the protein levels," Racusin said.

Neural tube defects can be found on ultrasound during anatomy scans but can be missed, she said. Screening alpha-fetoprotein levels is an added layer of protection.

"We can act on the information given to us from the screening," Aagaard said. "It is an inexpensive test, and we have four decades of experience with it."

Drawing blood to determine maternal serum alpha-fetoprotein levels also allows physicians to determine whether the problem can be repaired while the baby is still in the uterus.

"This makes a difference for mom and baby," Aagaard said. "You can't forgo detecting one thing at the loss of detecting the other."

**More information:** "Role of Maternal Serum Alpha-Fetoprotein and Ultrasonography in Contemporary Detection of Spina Bifida." *Amer J Perinatol*. [DOI: 10.1055/s-0035-1562930](https://doi.org/10.1055/s-0035-1562930)

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