

# Home DNA gender test raises ethical questions

*New procedure claims to tell a baby's sex just six weeks into pregnancy*

The Associated Press

LONDON — A new test dubbed “Pink or Blue” promises to tell parents the sex of their fetus just six weeks into pregnancy, but critics question its reliability and say it could pose an array of ethical issues.

The British company DNA Worldwide launched the test last month for sale over the Internet targeting a broad world audience. A U.S. company has been selling the test online, mainly to Americans, since last year.

The company does not ship to countries including China and India, where there is sometimes a marked preference for boys over girls. Some experts suggested the test could lead some parents to abort if they were unhappy with the result.

## Some question the test's accuracy

The test works by analyzing fetal DNA that leaks into the mother's bloodstream. Some experts expressed doubts about the technique.

“The earlier in pregnancy that you do these tests, the less fetal DNA there will be around, and possibly, the less accurate the test will be,” said Dr. Patrick O'Brien, a consultant obstetrician and spokesperson for the Royal College of Obstetricians and Gynecologists.

“At six weeks of pregnancy, it's questionable whether the technology is that good.”

Parents willing to wait longer can get a head-to-toe ultrasound at 20 weeks that



is almost 100 percent accurate. Invasive procedures like an amniocentesis — which carry a small risk of miscarriage — can be done at about 11 weeks.

## Do-it-yourself at home

Parents who order the Pink or Blue test receive a packet where the mother provides a spot of blood on a special card. That is sent back to the company's laboratories, and within four to six days, the gender of the fetus is revealed with up to 98 percent accuracy if instructions are properly followed, according to DNA Worldwide.

Because the test is marketed as “informational” rather than medical, it is not

regulated by health authorities in Britain or abroad.

“We're trying to bridge the gap between science and the consumer,” said David Nicholson, director of DNA Worldwide. “Many parents are very keen to know if it's a boy or a girl, and we are about providing that information.”

The test works by detecting fetal DNA that can naturally be found in the mother's blood. It looks for the male-specific Y chromosome. If the Y chromosome is detected, the fetus is a boy. If not, it's a girl.

The Pink or Blue test is based on a method developed by Italian researchers, who published their research in the journal *Human Genetics* in 2005.

They claimed the Y-chromosome could be reliably identified in the mother's bloodstream as early as six weeks into pregnancy.

DNA Worldwide offers customers a money-back guarantee if their results prove to be wrong. Of the hundreds of tests sold since the test went on sale in April, Nicholson says they have only had to refund one customer.

Even if DNA Worldwide's test is accurate, experts recommend that parents get professional advice.

## Ethical issues raised

“Someone who takes this test should talk to their physician if they're going to do anything with that information besides buying baby clothes or painting the nursery,” said Dr. Rachel Masch, an obstetrician/gynecologist at New York University School of Medicine.

“And even in that case, they might have to make a lot of returns.”

Other experts worried about ethical implications if parents use the information to select the gender of their babies, by getting an abortion if the test indicates the “wrong” sex.

“Sex-selection might encourage parents to view their kids as commodities,” said Marcy Darnovsky, associate executive director of the Center for Genetics and Society, a U.S.-based public interest group. “Tests like this could normalize genetic selection and lead to a scenario where parents are one day picking out their child's characteristics from a catalogue,” Darnovsky said.

Still, doctors said the technology behind the test could one day allow advanced genetic screening, like testing for chromosomal disorders such as Down Syndrome.

“If we had a safe and accurate genetic test to look at fetal DNA, that would be the holy grail,” O'Brien said.