



Understanding NIPT (Non-Invasive Prenatal Testing)

Pregnancy is an exciting time, but also a little nerve-racking because of all the unknowns that come along with having a baby. One of the primary concerns families have is the health of their newborn. Although no prenatal tests can “guarantee” a perfectly healthy baby, it is comforting to know there are prenatal testing options to help determine if there may be health issues with the baby.

Footnotes:

1. Gardner, R. and Sutherland, G (2004). *Chromosomes abnormalities and genetic counseling* 3rd ed. P. 366. Oxford: Oxford University Press
2. Dahl F, Ericsson O, Karlberg O, et al.; *Imaging single DNA molecules for high precision NIPT*. Scientific Reports 2018;8:4549
3. Practice Bulletin No. 226: *Screening for fetal chromosomal abnormalities*. Obstet Gynecol 2020;136.
4. Gregg AR, Skotko BG, Benkendorf JL et al. *Noninvasive prenatal screening for fetal aneuploidy, 2016 update: a position statement of the American College of Medical Genetics and Genomics*. Genet Med. 2016;18(10):1056-65.
5. Bianchi DW, Parker RL, Wentworth J, et al.; CARE Study Group. *DNA sequencing versus standard prenatal aneuploidy screening*. N Engl J Med 2014;370:799-808.
6. Norton ME, Jacobsson B, Swamy GK, et al. *Cell-free DNA analysis for noninvasive examination of trisomy*. N Engl J Med 2015;372:1589-1597.
7. Zhang H, Gao Y, Jiang F, et al. *Non-invasive prenatal testing for trisomies 21, 18 and 13: clinical experience from 146,958 pregnancies*. Ultrasound Obstet Gynecol 2015;45:530-538.

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THE NON-INVASIVE PRENATAL TEST FOR ALL WOMEN

Vanadis® NIPT



Common conditions

Some of the more common conditions affecting pregnancies involve chromosomal abnormalities - with the most common being Down syndrome.¹ Over the years, tests have been designed to help us look for these conditions. One of the more recent advancements in testing is called NIPT (Non-Invasive Prenatal Testing). NIPT is a screening test for pregnant women to help figure out their chances for having a baby with Down syndrome (Trisomy 21), Edwards syndrome (Trisomy 18) or Patau syndrome (Trisomy 13). The test also is often able to indicate whether the baby is a boy or girl.

The way NIPT works

The way NIPT works is fascinating.² What we've learned is that very small pieces of the baby's DNA go into mom's blood. We now have the technology to find these little pieces and to figure out which chromosome they come from. We then look at the amount of each chromosome in the blood. The hope is that there is a certain balance between the chromosomes.



To illustrate, since there are typically two copies of each chromosome, the amount of DNA from chromosome 21 should be the same as chromosome 18. But if there was MORE DNA from chromosome 21 than expected, then the question would be "why is there more"? The answer is that the baby probably carries a third copy of chromosome 21. We would expect that baby to have Down syndrome, since babies with Down syndrome have an extra copy of chromosome 21.

Why should I get an NIPT test?

NIPT is the most accurate screening test available for the most common trisomies³⁻⁷ and is performed by a simple blood test. The test is available any time after 10 weeks gestation and results usually take around one week. If the NIPT results indicate there is a high chance for the baby to have one of these conditions, then diagnostic testing options should be offered to the mother to provide a definitive yes or no answer. Studies have shown that NIPT can identify more pregnancies with these conditions and is accurate more often than other traditional screening tests performed in 1st or 2nd trimester.³⁻⁷

About Vanadis® NIPT

Vanadis® NIPT was developed using innovative technology that allows NIPT to be performed in a simple, accurate and much more cost-effective way. Our hope is that Vanadis® NIPT will give more women access to better prenatal testing. If you are interested in any NIPT test, a discussion with your healthcare provider or a genetic counselor to fully understand the benefits, limitations and cost of this test is highly recommended.



Talk to your Doctor
about whether the
Vanadis® NIPT test
is right for you.

