XomeDx*Prenatal*

XomeDx: Frequently Asked Questions

1. What is the XomeDxPrenatal test?

XomeDxPrenatal is an expedited whole exome sequencing (WES) service specifically designed for use in ongoing pregnancies with ultrasound anomalies. XomeDxPrenatal uses the same methodology as XomeDx, our standard WES service. The primary differences are the expedited turn-around time and the option of report preferences as described below. Specimens on the fetus and both biological parents are required for XomeDxPrenatal. The written report, which includes confirmed variants of all clinically relevant genes in the exome, will be provided in approximately 3 to 4 weeks from the start of the test.

2. When is XomeDxPrenatal useful?

XomeDxPrenatal can be useful for ongoing pregnancies with ultrasound anomalies where a molecular diagnosis may allow for more accurate prognostic predictions, establishing an appropriate delivery strategy, a pre- and postnatal management plan, as well as better recurrence risk assessment in the family. XomeDxPrenatal should be considered after standard genetic testing such as fetal microarray has been completed and is non-diagnostic.

3. What are the options for reporting variants identified in the fetal genome?

A single report will be issued on the fetus. No report will be issued on the parents or other relatives. GeneDx offers two options for reporting:

- **XomeDxPrenatal Targeted:** The XomeDxPrenatal Targeted fetal report will include medically relevant pathogenic or likely pathogenic variants in genes expected to be related to the reported fetal phenotype. Variants of uncertain significance may be reported if there is compelling evidence to suggest clinical significance. Requisition form signed by the ordering provider and consent form signed by the patient
- **XomeDxPrenatal Comprehensive:** The XomeDxPrenatal Comprehensive fetal report will also include medically relevant pathogenic or likely pathogenic variants in genes expected to be related to the reported fetal phenotype. Variants of uncertain significance may be reported if there is compelling evidence to suggest clinical significance. In addition, variants of uncertain significance in novel candidate genes may be reported.

5. Will the analysis identify pathogenic variants in disease-associated genes that are not associated with the reported fetal phenotype?

GeneDx's XomeDxPrenatal service uses our clinical and molecular genetics expertise to identify variants that are associated with the reported fetal phenotype. However, as recommended by the American College of Medical Genetics and Genomics (ACMG), all individuals whose samples were sent to GeneDx for whole exome sequencing (WES) testing will receive secondary findings, if present in the fetus, as part of their result. Any secondary findings identified in the genes recommended by ACMG will be listed at the end of the report. In rare cases, GeneDx may also report an incidental finding in a gene that is not one of the genes recommended by the ACMG. These findings are medically relevant variants in genes known to cause significant childhood morbidity and mortality. GeneDx would like to honor patient preferences and therefore we will offer the choice to opt-out of receiving secondary findings. Patients can choose to opt-out of receiving secondary findings by signing the opt-out option on the XomeDxPrenatal Test Requisition Form.

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6. Can you use WES to screen the parents for carrier status of recessive diseases?

No, a test designed for universal carrier screening (such as Inherigen by GenPath Women's Health www.genpathdiagnostics.com/womens-health/inherigen) is a better way to obtain this information. In addition, strict carrier status will not be reported for a fetus unless it is possible that the finding may be related to the reported phenotype. This follows the American Academy of Pediatrics (AAP) guidelines, which recommends against carrier testing in children.

7. What is required to proceed with XomeDxPrenatal testing?

- **Contact GeneDx:** Email WESPrenatal@GeneDx.com to notify GeneDx that specimens will be sent.
- **Trios:** We will only accept traditional trios (specimens on the fetus and both biological parents) for XomeDxPrenatal. Exome sequencing will be performed on all three specimens; however, parental specimens will be used only for analysis and interpretation in the context of the fetal phenotype and molecular diagnosis. All specimens must be received by GeneDx to initiate testing.
- **Clinical Information:** Complete clinical information is an essential part of identifying clinically relevant variants with exome sequencing. We require clinical information with the specimens including fetal imaging reports, prior genetic testing results including fetal chromosome analysis and/or microarray, consultation notes, and detailed pedigree and/or family history.

8. What specimens will be accepted?

Ship specimens on the same day, overnight at ambient temperature, using a cool pack in hot weather.

- Fetal specimen:
  - Direct: chorionic villi (minimum 30 mg) or amniotic fluid (minimum 30 mL).
  - Cultured: cultured chorionic villi or cultured amniocytes (two confluent T25 flasks).
  - DNA: Genomic DNA can be accepted. At least 15 µg with a minimum concentration of 50 ng/ul is requested.
- Maternal and paternal specimens:
  - Blood: 2-5 mL whole blood in a purple-top tube (EDTA).
  - DNA: Genomic DNA can be accepted. At least 15 µg with a minimum concentration of 50 ng/ul is requested.

9. What is the billing policy for XomeDxPrenatal?

GeneDx can bill the institution or will accept self-pay. At this time, we are not accepting patient insurance. An expediting fee will apply. Your GeneDx sales representative can work with your institution to determine pricing.

10. How can I get more information about XomeDxPrenatal testing?

To discuss this service in more detail, contact your GeneDx sales representative or email us at WESPrenatal@GeneDx.com. For a detailed general discussion of WES provided by GeneDx see XomeDx Frequently Asked Questions (genedx.com/xomedx).

207 Perry Parkway
Gaithersburg, MD 20877
T 1 888 729 1206 (Toll-Free), 1 301 519 2100 • **F** 1 201 421 2010
E genedx@genedx.com • www.genedx.com

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