



A WORLD LEADER IN COMPLEX PERINATAL CARE
UCSF Benioff Children's Hospitals have a history of providing leading-edge fetal and neonatal care. We're home to the world's first intensive care nursery and the first open fetal surgery. Since then, we've pioneered lifesaving innovations in the diagnosis and treatment of the most complex fetal and neonatal conditions. U.S. News & World Report ranks our neonatology program among the top 10 in the nation.



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CLINICAL ADVANCE

Rapid Whole Genome Sequencing

We're proud to offer the latest breakthrough in next-generation sequencing.

Rapid whole genome sequencing is the fastest, most comprehensive test available for uncovering genetic etiologies of fetal and neonatal complications.

We're currently the only hospital in Northern California to offer both prenatal and neonatal rapid whole genome sequencing. The test is available to patients at our Fetal Treatment Center and to newborns in our NICUs.

Better perinatal care with next-generation sequencing

- Next-generation sequencing has demonstrated significant benefits for the diagnosis and management of congenital anomalies, suspected genetic disorders and other fetal and neonatal complications.
- Rapid whole genome sequencing is the latest advance in next-generation sequencing. It's quicker and more thorough than gene panel testing or exome sequencing.
- The test is performed and analyzed in-house at UCSF.

INFORMATION / REFERRALS

San Francisco: (800) 793-3887 (800-RX-FETUS)

Oakland: (510) 428-3156

ucsfbenioffchildrens.org/genome



Rapid Whole Genome Sequencing

What is rapid whole genome sequencing?

Rapid whole genome sequencing is a technique for analyzing the entire genome. By casting a wider net than is possible with specific gene panels and exome sequencing, we're able to quickly identify many genetic issues.

Whole genome sequencing results can help clinicians choose or rule out treatments for patients. The test can be particularly useful when prompt intervention is important.

What are the benefits?

- The entire genome is analyzed at the same time.
- Results are available quickly – usually within one to two weeks.
- An underlying genetic cause is identified in about 35% of cases.
- Results can provide information about the likelihood of the same condition occurring in future pregnancies and lead to more accurate prenatal diagnoses.



Who is a candidate?

FETAL TESTING

At the UCSF Fetal Treatment Center, most cases of fetal physical anomalies are eligible for rapid whole genome sequencing.

Pregnant patients must meet these criteria:

- An ultrasound has identified one or more fetal structural anomalies in one or more organ systems.
- The patient has had or will have amniocentesis or chorionic villus sampling.

NEONATAL TESTING

We offer rapid whole genome sequencing to newborns who meet any of the following criteria:

- Anomalies suggestive of genetic conditions
- Abnormal results on newborn screening tests that suggest a genetic disease
- Unexplained critical illness
- Unexplained seizures
- Family history of genetic disorders
- Fetal ultrasound indicated a significant anomaly, but the parent did not undergo CVS or amniocentesis

For both fetal and neonatal testing, at least one biological parent must provide a DNA sample (blood or saliva) to help with interpretation of the test results.

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