



Our goals are to develop  
**a precision-based approach**  
 to care for NIHF, and ultimately,  
**targeted treatments** specific to  
 each underlying cause of NIHF.



For more information  
 or to refer a patient,  
 please contact us:

### UCSF Fetal Treatment Center

#### HyDROPS Team

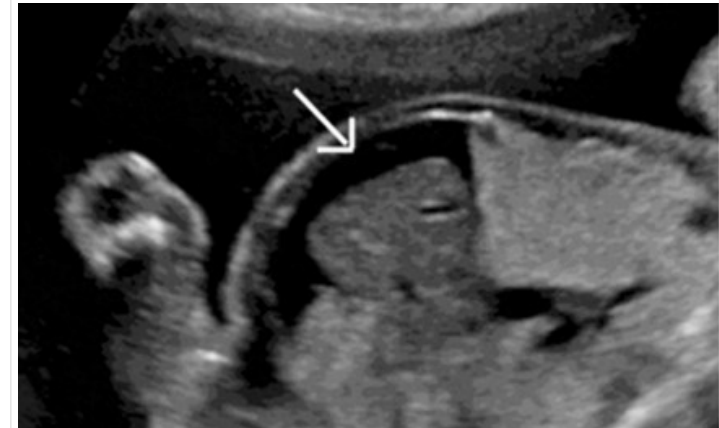
1-800-RX-FETUS  
 (1-800-793-3887)

[hydrops@ucsf.edu](mailto:hydrops@ucsf.edu)

Teresa Sparks, MD, MAS  
 Mary Norton, MD  
 Billie Lianoglou, LCGC  
 Tippi MacKenzie, MD  
 Stephan Sanders, MD, PhD  
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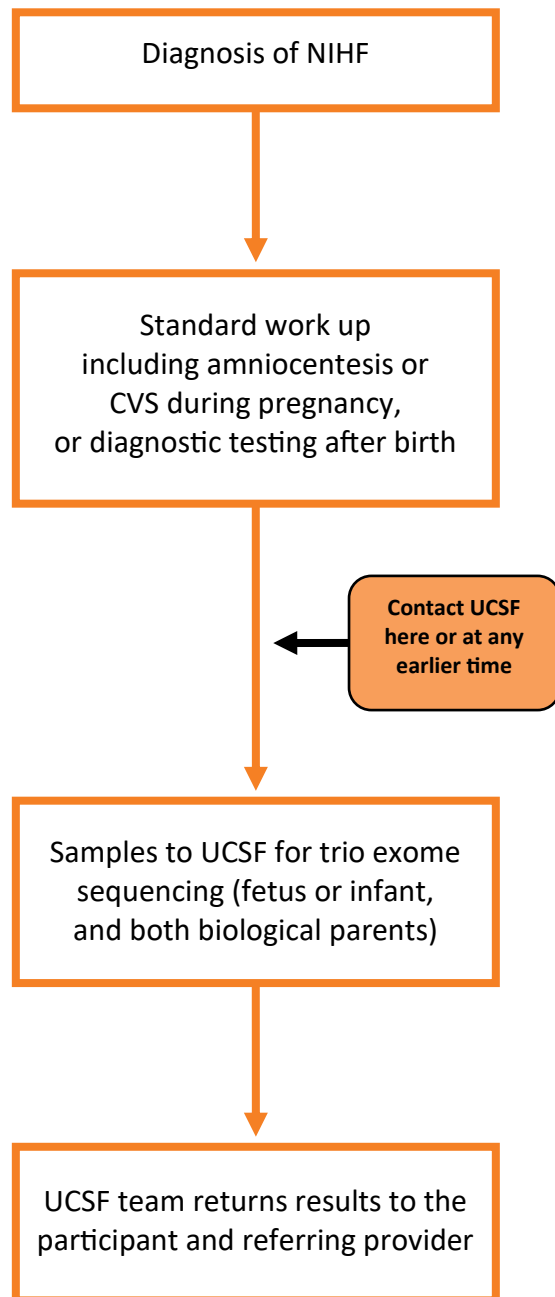
- Hydrops:
- Diagnosing &
- Redefining
- Outcomes with
- Precision
- Study



Our research contributes novel  
 information about genetic disorders that  
 cause Non-Immune Hydrops Fetalis.

This enables more accurate **counseling**,  
**individualized antenatal care**, and  
**anticipation of neonatal needs**.

## STUDY OVERVIEW



## STUDY DESIGN

### Enrollment

The UCSF team can consent and enroll patients locally at UCSF or remotely via video or telephone.

### Inclusion Criteria

Living or demised fetus or infant with non-diagnostic karyotype and/or microarray, and one or more of the following:

- Non-immune hydrops fetalis
- Single abnormal fetal fluid compartment (such as isolated ascites)
- Cystic hygroma
- Nuchal translucency of  $\geq 3.5$  mm

### Exclusion Criteria (any)

- Alloimmunization
- Twin-twin transfusion syndrome

### Approach to Testing

- Trio exome sequencing on fetus/infant and (ideally) both biological parents
- If patient declines diagnostic testing during pregnancy, infant or other tissue sample may be sent to UCSF
- Exome sequencing at no cost to families
- Multidisciplinary panel review and classification of genetic variants
- Turnaround time is 2 - 4 weeks for ongoing pregnancies and live births
- Our CLIA-approved lab issues a formal report to the patient and ordering provider

## HOW TO PARTICIPATE

### Clinical Data

Our team will request a limited amount of clinical information, such as results of karyotype and/or microarray and ultrasound findings.

### How to Refer a Patient

[hydrops@ucsf.edu](mailto:hydrops@ucsf.edu) or 1-800-RX-FETUS

See insert for recommended work up of NIHF.

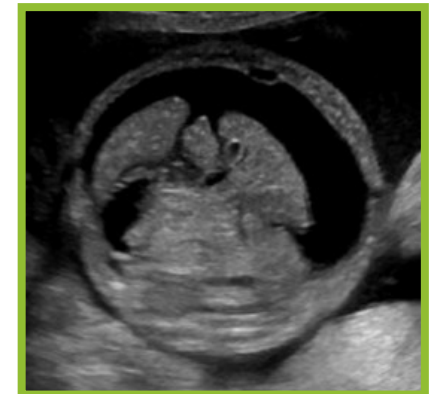
### Send Us a Specimen

- Our team can assist with sample transfer
- Saliva kits shipped directly to biological parents with pre-paid return to UCSF
- Only one sample type needed for the fetus/infant as well as each biological parent

Fetal: Cultured amniocytes, chorionic villi, cord blood, products of conception, extracted DNA, or other tissue

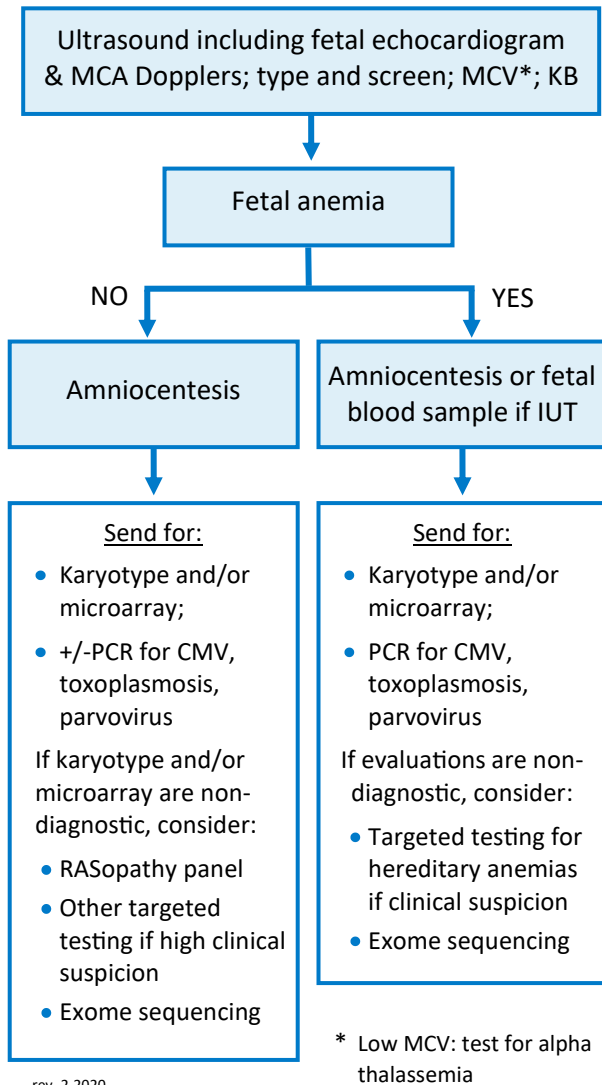
Neonatal: Blood, buccal/saliva, skin, or other tissue

Parental: Blood or saliva



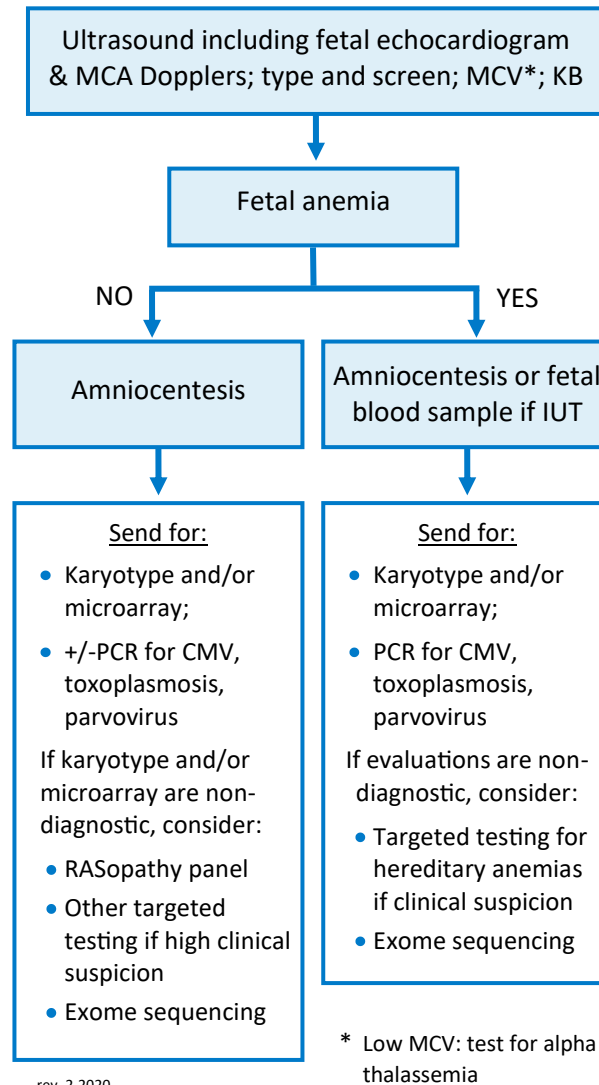
## Work up of Non-Immune Hydrops Fetalis (NIHF)

Adapted from SMFM Clinical Guideline, 2015



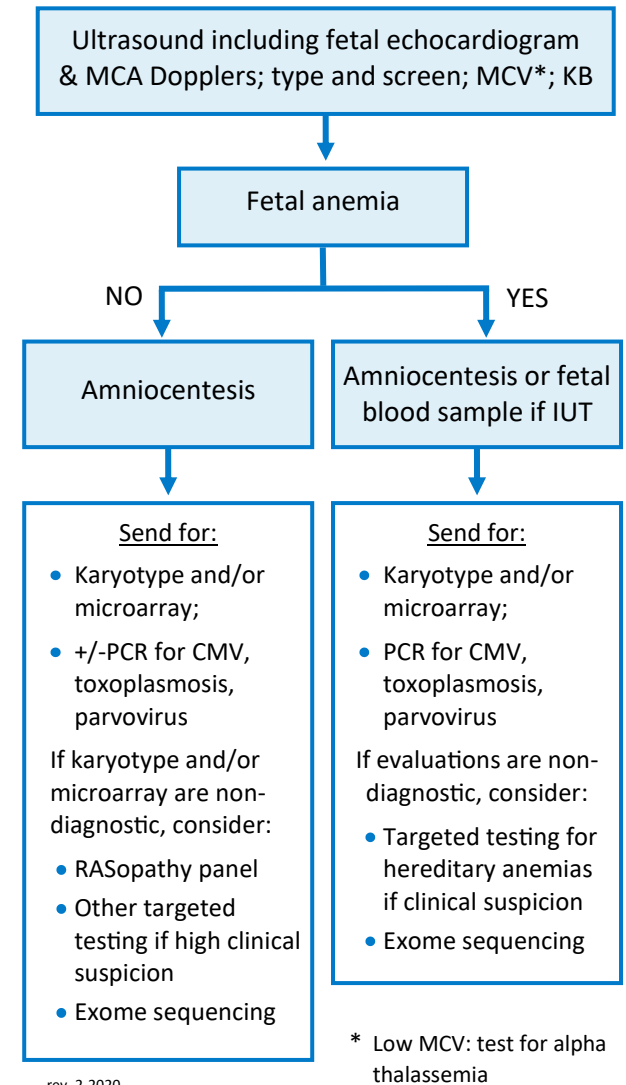
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