

# Meet Jennifer\*

Second trimester | ~18-23 weeks gestation

Jennifer's pregnancy had been progressing normally, with early serum screening and anatomy ultrasound results within expected range. At her fetal anatomy ultrasound, new findings emerged: Fetal hydrops and bilateral clubfoot. She was referred to a Maternal Fetal Medicine (MFM) specialist to evaluate these findings and discuss next steps.



## 23 Weeks:

### Diagnostic testing initiated

Jennifer elected to proceed with amniocentesis, and a chromosomal microarray (CMA) was ordered.

- Result: Negative



Jennifer underwent fetal intervention to manage hydrops.



## When answers are still unclear

- Given the severity of hydrops and unclear etiology, Jennifer was counseled on additional testing options.
- She elected to pursue exome sequencing (ES) as a trio, including samples from both parents, to further investigate a genetic cause.
- Ultrasound findings persisted and progressed, including:
  - Severe pleural effusions, ascites, and skin edema
  - Bilateral clubfoot
  - Developing polyhydramnios

## A diagnosis identified

- Exome sequencing revealed two variants in the GUSB gene, confirming:
  - Mucopolysaccharidosis Type VII (MPS VII) (Sly syndrome)

## Impact on care

A molecular diagnosis enabled the following:

- Identification of the genetic cause of cystic hygroma
- Confirmation of inheritance pattern for recurrence risk assessment

Clarity early in the pregnancy can allow for:

- Early decision making for pregnancy outcomes
- Proactive decision-making for delivery decisions and coordination of care planning

When ultrasound findings are significant and CMA is negative, exome sequencing can provide critical diagnostic insight, helping *guide care* when it matters most.

Order CMA + ES concurrently as concurrent testing may reduce time to diagnosis during critical periods of uncertainty and clinical decision-making.

## Bundle options



### Concurrent bundles

Run CMA + exome/genome together for speed



### Reflex bundles

Start with CMA, reflex to exome/genome if needed

Available as **proband, duo, and trio configurations**



# SMFM updates guidance on genetic evaluation in NIHF

Concurrent genomic testing is now part of the diagnostic conversation

Non-immune hydrops fetalis (NIHF) remains a **heterogeneous condition** with genetic, structural, infectious, and placental etiologies, requiring a broad and systematic diagnostic approach. Updated recommendations emphasize:

## Universal diagnostic testing

All pregnancies with  $\geq 1$  fetal effusion should receive genetic evaluation, including CMA  $\pm$  karyotype

## Expanded role of sequencing

Exome or genome sequencing are recommended when CMA/karyotype are non-diagnostic and no clear etiology is identified

## Support for earlier comprehensive testing

Concurrent CMA + exome/genome is reasonable when:

→ Rapid diagnosis is clinically important

→ Aneuploidy risk is low

→ A single-gene disorder is suspected

## Shift toward individualized, etiology-driven care

Diagnostic strategy should align with clinical presentation, urgency, and patient preferences

## The shift to integrated genomic testing

Introducing GeneDx Prenatal Bundles, designed to support guideline-aligned testing strategies

GeneDx enables CMA + exome or genome in a single, streamlined order, reducing friction in complex cases

### Bundle options



#### Concurrent bundles

Run CMA + exome/genome together for speed



#### Reflex bundles

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Available as **proband, duo, and trio configurations**

## Why it matters

- ✓ Faster answers without sequential testing delays
- ✓ Reduced re-collection risk
- ✓ Flexible pathways based on urgency or payer considerations
- ✓ Simplified ordering for complex cases



### Aligned with latest SMFM guidance

Explore GeneDx prenatal exome and genome testing

[genedx.co/prenatal-genetic-testing](https://genedx.co/prenatal-genetic-testing)