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Untargeted nutrigenomics in *Drosophila*: Dietary insights for inherited disorders of amino acid metabolism

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[Start transcript]

To study rare genetic metabolic diseases, I start with diet ... for fruit flies.

Metabolism is how our bodies turn food into energy.

We used to think of it as a chain of steps but in reality, it's a complex, interconnected biosystem.

When just a single step is disrupted, it can cause inherited metabolic disorders.

For kids with these rare genetic conditions, even basic nutrients can be harmful. Many die in early infancy.

Effective treatments are still missing for ~60% due to their rarity and the complexity of metabolism. However, diet can be therapy.

In my PhD, I test many diets on fruit flies with metabolic disorders to see how nutrients affect their health. This helps us understand how diet and genes interact, which offers insights into metabolism and may one day guide dietary treatment.

From fly diets to metabolic insight — advancing precision nutrition.

[End transcript]