

Multi-Gene Panels: The Importance of the Genetic Counselor

Not all laboratories' genetic testing panels are created equal.

- Panels vary in terms of the genes included and how thoroughly each gene is evaluated. A panel with more genes may not be better than a smaller panel.
- Some panels include genes about which very little is known; a mutation in these genes may not impact medical management.
- Panels vary in their ability to detect mutations (sensitivity) due to differences in the technology used to find and confirm mutations.

Genetic counselors stay abreast of ongoing updates to laboratory panels. The genetic counselor's knowledge and expertise allow for identification of the best panel based on the patient's personal and family history.

Panel tests often identify variants of unknown clinical significance.

- A variant of unknown clinical significance (VUS) is a gene change for which there is limited information to know whether it is a benign polymorphism (common gene change) or a true mutation.
- A VUS can be difficult for a provider to manage and for a patient to understand.
- Laboratories vary in their rates and methods of reporting and classifying variants. They also differ regarding whether they update providers when a VUS is reclassified.

Genetic counselors use their expertise evaluating the pertinent history and available scientific data regarding the nature of variants to ensure appropriate utilization of test results. They can assist patients and family members with understanding the complexities of a VUS and update them regarding new interpretations over time.

A panel test may or may not always be the most cost-effective test.

- It is important to conduct a complete risk assessment (including family history analysis) before choosing a multi-gene panel. Patients may require only a single-gene test for significantly less cost.
- When multiple genetic etiologies are in the differential diagnosis, a panel may save time and money.
- The cost of panels varies widely from lab to lab, as do billing policies, turnaround time, and reporting practices.

The inclusion of genetic counselors within a clinical practice allows for the most appropriate utilization of valuable health-care dollars.

Professional organizations, such as the National Comprehensive Cancer Network and the Society for Gynecologic Oncology, have begun to recommend that multi-gene panels only be ordered in consultation with a genetics professional due to their intrinsic complexity. Genetic counselors are readily available to help both patients and providers. You can find a local Genetic Counselor by visiting www.nsgc.org.