Biomarker Testing in Melanoma: Cancer Biomarker Awareness Day

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On Thursday, November 13th, 2025, the Melanoma Research Alliance and the Cancer Precision Medicine Commons invite you to join us in recognizing Cancer Biomarker Awareness Day—a nationwide effort to educate and empower patients, caregivers, and the public about the crucial role biomarkers play in the fight against cancer.

What Are Biomarkers?

A biomarker is a biological molecule or substance found in your body that can be measured and can give information about your health. Biomarkers can identify both normal or abnormal processes, such as cancer, and can indicate how well the body may respond to a particular therapeutic intervention or treatment.

Biomarkers can be used to:

- Estimate the risk of cancer developing
- Determine whether a cancer is present
- Identify the severity or aggressiveness of a cancer
- Predict how well the body will respond to a treatment for cancer

What is Biomarker Testing—and Why Does it Matter?

Biomarker testing allows a patient's healthcare team to learn as much as possible about their unique cancer, ideally before a treatment plan is established or treatment begins.

Biomarker testing examines biological molecules – such as DNA, RNA, and proteins – that are

produced by cancer cells or by normal cells in response to cancer in the body. These biomarkers are found within or around tumors, as well as in other body fluids like blood and urine. This type of testing is distinct from genetic testing, which looks for inherited changes in DNA that are found in all cells.

In some cancers, biomarker testing plays a pivotal role in informing treatment decisions. It identifies specific biological molecules that are associated with cancer progression, the risk of recurrence, and the effectiveness of a given treatment.

When a doctor makes any new treatment decision for their patient – at diagnosis, progression (when the cancer grows or changes), or recurrence – it is important to ask if that decision is informed by biomarker testing results, or whether biomarker testing could be performed to help determine the next best treatment option.

Why Biomarker Awareness Matters

Even as biomarkers are transforming how cancer treatments are chosen, greater awareness is still needed among patients, caregivers, and their healthcare team. In the absence of biomarker testing, patients may lose the opportunity to access innovative targeted therapies as well as clinical trials. Cancer Biomarker Awareness Day is a chance to change that.

Biomarker Testing in Melanoma

For patients with melanoma, biomarker testing is recommended because it can help determine prognosis, predict potential responses to targeted or immunotherapy treatments, assess the risk of recurrence, and guide post-treatment monitoring. It may also determine eligibility for certain clinical trials testing novel treatments, combinations, and approaches.

Several different types of biomarker tests are available for patients with melanoma:

DecisionDx-Melanoma (developed by Castle Biosciences), is a commonly used commercial test to predict the likelihood of a melanoma returning or spreading following surgery for patients diagnosed with early-stage (Stage I-III) cutaneous melanoma. This prognostic test looks at the expression levels of 31 individual genes in the cells of a patient's tumor to determine these risks. Importantly, the DecisionDx-Melanoma test can help guide decisions about sentinel lymph node biopsy, follow-up frequency, imaging, specialist referral, and whether adjuvant therapy (used after surgery to reduce the risk of melanoma returning) may be beneficial.

Decisions about how a patient's melanoma is managed can also be guided by the Merlin CP-GEP Test by SkylineDx that can identify patients with cutaneous melanoma who may safely avoid a sentinel lymph node biopsy. To predict the risk of the melanoma spreading from the primary tumor to the sentinel lymph node, the test combines a gene expression profile using eight genes with clinical information such as the patient's age and tumor thickness.

Another test from Castle Biosciences, DecisionDx-UM, works similarly by determining the expression of 15 genes in a patient's tumor to estimate the likelihood of metastasis within 5 years for patients diagnosed with uveal melanoma, a rare subtype of melanoma that occurs in the eye. DecisionDx-PRAME is an optional add-on test that measures the expression of the PRAME gene in uveal melanoma and can enhance the prediction of metastatic risk. Impact Genetics also offers a prognostic test for patients with uveal melanoma that examines specific gene mutations and chromosomal alterations present in uveal melanoma tumors and can predict survivorship.

A different type of biomarker test used in melanoma is the liquid biopsy or circulating tumor DNA (ctDNA) test. This test helps physicians understand how the cancer is behaving within a patient's body by using a blood sample to look for fragments of tumor DNA (ctDNA). As cancer cells grow and divide, tumors shed DNA into the bloodstream. ctDNA tests, like Natera's Signatera™, can determine the risk of recurrence, how well a treatment is working, and the necessity of continued therapy for patients with melanoma.

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