**PATIENT INFORMATION**

**POINTS TO CONSIDER FOR NEXT-GENERATION SEQUENCING CANCER PANELS**

**UNIVERSITY OF WASHINGTON, DEPARTMENT OF LABORATORY MEDICINE, GENETICS LABORATORY**

BROCA, ColoSeq™, ColoSeq™ Polyposis

The purpose of this testing is to determine if you carry genetic variants known to be associated with increased cancer risk. Testing will include analysis of all genes included on the cancer panel that is ordered - BROCA, ColoSeq™, or ColoSeq™ Polyposis.

If you are found to have one or more genetic variants associated with increased cancer risk, the information will be used by your healthcare providers to guide cancer screening and risk reduction. While many genes on these panels are well characterized, there are several genes on the BROCA panel that are just beginning to be recognized as cancer genes; for these, cancer risk information is limited and evolving.

If you are found to have a variant associated with increased cancer risk, also known as a mutation, this may have impact for your family. Testing would be available for family members who are at risk to inherit the mutation.

The University of Washington Genetics Laboratory recommends that all individuals undergoing genetic testing for cancer risk work closely with a qualified healthcare provider, such as a genetic counselor or medical geneticist, before and after testing.

**Types of test result(s) that are possible:**

Positive – A genetic variant associated with increased cancer risk, also known as a mutation, is identified. This may explain a family history of cancer. Given the large number of genes tested and variability of cancer in families, your specific result may be somewhat or altogether unexpected. With the test result and your personal cancer risk factors, your healthcare provider will be able to advise you about additional testing and recommendations for cancer screening and risk reduction.

Negative - No mutation is identified in any of the genes tested. This significantly reduces the chance that you have a mutation in one of the genes tested. However, a negative test result does not eliminate your increased cancer risk based on an unexplained family history of cancer. Your healthcare provider will provide you with an updated cancer risk assessment and recommendations for cancer screening and risk reduction based on your negative test results, personal risk factors, and family history of cancer.

Variant of uncertain significance – A genetic variant that may or may not be associated with cancer risk, is identified. At the time of testing, there may be insufficient information to determine whether this variant is associated with increased cancer risk. Variants of uncertain significance are reviewed periodically, and if a variant of uncertain significance is later identified to be a mutation or benign (negative), the laboratory will attempt to notify the healthcare provider who ordered the original test. If and until that happens, your healthcare provider will provide cancer screening and risk reduction recommendations, based on your personal risk factors and family history of cancer.

**Additional information:**
After testing is completed, your blood or other tissue specimen(s) may be retained by the University of Washington Genetics Laboratory. Please note that any future re-analysis ordered by your healthcare provider may be charged to you and/or a third party payer.

Next-generation sequencing panels are expensive when compared to other blood tests. Talk to your healthcare provider about whether or not you want insurance pre-authorization and an estimate of your out-of-pocket costs.

These tests are designed to detect all types of genetic mutations. However, it is possible that certain mutations may not be detected. Testing is limited to the genes on the panel ordered, at the time test is ordered. Interpretation of results can be impacted by limited and/or inaccurate family medical history. Inaccurate results can occur due to sample mix-up or technical issues.

Genetic test results are considered Protected Health Information and therefore release of results is limited to individuals who are authorized, such as the ordering healthcare provider and other parties as required by the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

The Genetic Information Nondiscrimination Act (GINA) of 2008 provides protection from discrimination based on genetic information for health insurance and employment. The Americans with Disabilities Act (ADA) of 1990 provides additional protections for individuals who are affected by disabling medical conditions. Some states have additional regulations to protect individuals from discrimination based on disability, medical condition or genetic information.

For additional information about testing, please speak with your genetics provider. Details about the genes and testing process, for BROCA, ColoSeq™, and ColoSeq™ Polyposis, is available at http://depts.washington.edu/labweb/genetics.