What is IHC testing?
Abnormal growths are commonly found along the large intestine (called the colon) and the end of the colon (called the rectum). These growths may be referred to as tumors or polyps, and may or may not be cancer. If you have one or more tumor(s) or polyph(s) removed, this tissue is examined by pathology to determine:

• the size of the tumor
• if the tumor is cancer
• if the cancer has spread

The pathology lab uses several different techniques to study tumors. One technique is called immunohistochemistry (IHC) testing. IHC testing looks at the pattern of proteins that are in the tumor. Among other things, IHC can be used to determine if you may have a hereditary form of cancer known as Lynch syndrome.

Hereditary cancers are those that run in families. Families with Lynch syndrome may have certain kinds of cancers (colon, rectal, endometrial [uterus], ovarian, urinary tract) at younger ages and more frequently than in the general population. People who have Lynch syndrome have a higher chance of having more than one cancer in their lifetime. Finding out who has Lynch syndrome can help that person and their family get the right medical care.

What does the IHC test evaluate?
IHC tests for the presence of four particular proteins in a colorectal tumor. The proteins evaluated with the IHC test are present in normal colon and rectum tissue. These proteins may be absent in some cancers. If a protein is absent in your tumor, it helps provide information about how the cancer started, how best to treat it, and whether it may be associated with Lynch syndrome.

The IHC test looks for the following four proteins:
• MLH1
• MSH2
• MSH6
• PMS2

What do the results of IHC testing mean?

- **“Normal expression”**: All four proteins are present in your tumor. This result occurs about 80% of the time (8 out of every 10 tests) and means that you have the most common type of colon or rectal cancer. Your doctors will discuss treatment options with you based on the stage of your cancer at diagnosis.

  This result also means that you most likely do not have Lynch syndrome, and no additional follow-up for Lynch syndrome is indicated.

- **“Abnormal expression”**: One or more of the proteins is absent in your tumor. This result occurs about 20% of the time (2 out of every 10 tests) and means that you have the less common type of colon or rectal cancer. It also means that you might have Lynch syndrome. If MLH1 protein is absent, it is less likely that you have Lynch syndrome. Additional testing will automatically be done on the tumor to determine if Lynch syndrome is a possibility.

  If MSH2, MSH6 or PMS2 proteins are absent, it is possible you have Lynch syndrome. You will be contacted by KP Genetics Department to review your results, evaluate your family history and discuss additional testing options and what this means for your health care.

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