

Colorectal Cancer Immunohistochemistry testing (IHC)

What is IHC testing?

When you have surgery, the tumor from your colon or rectum will be closely studied. A tumor is a growth, which may or may not be cancer. The results will be given to your doctor in a pathology report about one week after your surgery. This pathology report helps the doctor to know:

- The size of the tumor
- If the tumor was cancer
- If the cancer has spread
- How well you might do after surgery

Ohio State University Medical Center has added an important test to the evaluation of all colon and rectal cancers. This test is called Immunohistochemistry testing (IHC). The test is used to determine if you may have a hereditary form of cancer known as Lynch syndrome. Hereditary cancers are those that run in families. People who have Lynch syndrome have a high chance of having more than one cancer in their lifetime, may have cancer at a younger age (under 60), and/or have a family history of certain cancers (colon, rectal, endometrial, ovarian, and ureter). Their close relatives may have Lynch syndrome and the associated increased risk for cancer.

What does the IHC test evaluate?

IHC tests for four proteins in the tumor. Proteins are vital substances that help keep your body in good health. The proteins evaluated with the IHC test are present in normal colon cells. The proteins may be absent in abnormal or cancerous colon cells. The IHC test looks for these proteins in the tumor:

- MLH1
- PMS2
- MSH2
- MSH6

What do the results of IHC mean?

- **All four proteins are present in your tumor.** This result occurs about 80 percent of the time (8 out of every 10 tests). This result means that you have the most common type of colon or rectal cancer. Your doctors will decide how well you will do based on the stage of your cancer at diagnosis. This also means that you most likely do *not* have Lynch syndrome.
- **One or more of the proteins is absent in your tumor.** This result occurs about 20 percent of the time (2 out of every 10 tests). This result means that you have the less common type of colon or rectal cancer. Your chance of having a good outcome is better than someone with all four proteins present. This result also means that you may have Lynch syndrome. Your doctor will ask you to schedule an appointment with Ohio State's Clinical Cancer Genetics Program. Here, you will learn more about your results, share your family history and discuss the possibility of additional testing.

What if my tumor does not have some of the proteins?

- **MLH1 and PMS2 are absent.** This result will occur 15 percent of the time (15 out of every 100 tests). Most people (4 out of 5) with absent MLH1 and PMS2 do *not* have Lynch syndrome. If MLH1 and PMS2 are absent, it may be hard difficult to determine if you have Lynch syndrome. Your doctor may recommend that you schedule an appointment with Ohio State's Clinical Cancer Genetics Program for further evaluation.
- **PMS2 alone, MSH2, or MSH6 are absent.** These results will occur only 5 percent of the time (5 out of every 100 tests). Most people with these results have Lynch syndrome. It is very important that anyone who receives one of these results schedules an appointment with Ohio State's Clinical Cancer Genetics Program.

If you have questions about your IHC results or to make an appointment with Ohio State's Clinical Cancer Genetics Program, please call (614) 293-6694 or toll free (888) 329-1654.

