

Colon polyps and cancer  
can run in your family...



*Discover Your Risks*  
*Understand Your Options*

*What a history of colon polyps  
may mean for you and your family—*

*and the steps you can take  
to help reduce the risk of  
hereditary colorectal cancer*

**COLARIS AP<sup>®</sup>**

## What Do Polyps and Polyposis Mean to Me?

Your doctor may have found polyps in your colon. Polyps, which are small growths of tissue, are common and usually harmless (benign or noncancerous). However, a specific kind of polyp, called an adenoma, can be a clue to an inherited syndrome that raises your risk for colon or rectal (colorectal) cancer. Adenomas are precancerous, which means they have the potential to develop into cancer.



The presence of multiple adenomas (known as polyposis) could mean you have an adenomatous polyposis syndrome. These syndromes are often characterized by the number of adenomas found in your colon. This brochure will discuss the three main adenomatous polyposis syndromes.

|  | Number of Colorectal Adenomas         |
|--|---------------------------------------|
| Familial Adenomatous Polyposis (FAP)   | Hundreds to thousands of adenomas     |
| Attenuated FAP (AFAP)                  | Between 10 and 99 adenomas            |
| <i>MYH</i> -Associated Polyposis (MAP) | Varies, usually more than 10 adenomas |

These syndromes are caused by changes or *mutations* in two important genes, *APC* and *MYH*.

## Do Colon Polyps and Cancer Run in Your Family?

You could have an inherited risk for colorectal adenomas and cancer if you have a personal or family history of any of the following:

- Ten or more adenomas diagnosed over one or more colon exams
- Relatives who have already tested positive for mutations in the *APC* or *MYH* genes

Some people with adenomatous polyposis syndromes might not have a family history of colorectal adenomas or cancer. If you are diagnosed with multiple colorectal adenomas, ask your healthcare provider about your hereditary colorectal cancer risk.

Please see the end of this brochure for a form to help you and your healthcare provider assess your inherited risk for colorectal adenomas and cancer.

## Inheriting a Gene Mutation Puts You at Higher Risk

You inherit all of your traits from your parents through the genes they pass on to you. So, if one or both of your parents carry *APC* or *MYH* mutations, you may carry these mutations also. Genes like *APC* and *MYH* help keep control of cell growth in your body so that you don't produce more cells than you need. However, when mutations in these genes occur, the genes lose control of cell growth and cancer may develop.

Having *APC* or *MYH* gene mutations means you have up to an 80% to 100% chance of getting colorectal cancer by age 70. By contrast, people who don't carry mutations have about a 6% chance of developing colorectal cancer.

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## COLARIS AP®: A test for Adenomatous Polyposis Syndromes

COLARIS AP® is a blood test that detects changes or mutations in the APC and MYH genes, the two genes primarily responsible for adenomatous polyposis syndromes. It is important to understand that COLARIS AP® does not tell you whether you have colorectal cancer, but it tells you if you are at an increased risk for cancer. Knowing this information allows you to take steps to reduce your colorectal cancer risk.

### Why Is COLARIS AP® Important for Me?

If your COLARIS AP® test is positive, you are more likely to develop colorectal adenomas and, as a result you are at a much higher risk for colorectal cancer. The COLARIS AP® test results can help estimate your risk for colorectal cancer so that you and your healthcare provider can create a personalized cancer risk reduction plan. For example, you may begin regular colorectal screening at a younger age than is recommended for the general population. (See chart at right.)

In some cases, you may be at an increased risk for cancers that form elsewhere in the body (extracolonic cancers), such as in the stomach, pancreas, brain, thyroid and small bowel. Your healthcare provider can advise you about screening recommendations for these cancers.



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### MEDICAL OPTIONS FOR REDUCING COLORECTAL CANCER RISK

|      | Increased surveillance (exams and screenings)  | Preventive surgery   | Postoperative treatment   |
|------|--|--|---|
| FAP  | Annual flexible sigmoidoscopy starting between ages 10-12  | Surgery to remove the colon and/or rectum (colectomy) is advised once adenomas develop       | Following colectomy, flexible sigmoidoscopy of remaining colon and/or rectum every 6 months to 3 years, depending on the number of adenomas found on previous exam  |
| AFAP | Colonoscopy every 1 to 2 years beginning in the late teens to mid-20s  | Surgery to remove the colon and/or rectum (colectomy) may be an option once adenomas develop | If colectomy is done, flexible sigmoidoscopy of remaining colon and/or rectum every 6 months to 3 years, depending on the number of adenomas found on previous exam |
| MAP  | Should be managed like FAP or AFAP, depending on the number of adenomas—no specific guidelines have been established |  |   |

### Why Is COLARIS AP® Important for My Family?

Gene mutations can be passed on from one generation to the next in a family. The results of COLARIS AP® may also be important for your children, siblings, parents and other close relatives. If you have mutations in the APC or MYH genes, other family members can be tested to determine if they also have the same mutations. If they do, they can follow the recommended screening guidelines to reduce their risk of cancer.

Equally as important, COLARIS AP® can help by letting family members know that they are not at an increased risk for colorectal adenomas and cancer. If a person tests negative for mutations that have been found in a family, their colorectal cancer risk is reduced to that of the general population and they will not need increased screenings.

## What is Involved in Being Tested with COLARIS AP®?

If you are considering COLARIS AP®, your doctor, genetic counselor, or other healthcare professional will carefully evaluate your personal and family history. He or she will discuss possible COLARIS AP® results and what the results could mean for you and your family. If you choose to be tested with COLARIS AP®, your physician or other healthcare provider will collect a small amount of blood and send it to Myriad Genetic Laboratories for analysis.



## Be Ready Against Cancer Now

Remember that early detection is critical to preventing and treating colorectal cancer. COLARIS AP® can help you determine your risk so you can fight hereditary colorectal cancer before it even develops. Knowing your COLARIS AP® test result may enable your family members to make informed choices and decisions about their own healthcare and cancer risk reduction strategies.

Now is the time to ask your doctor about genetic testing and how it may benefit you and your family.

### Another colorectal cancer syndrome you should know about

A small number of adenomas (as seen in AFAP and sometimes in MAP) can indicate another colorectal cancer syndrome called Lynch syndrome, or hereditary nonpolyposis colorectal cancer (HNPCC). AFAP, MAP, and HNPCC may share the following characteristics:

- there may be only a few adenomas—in Lynch syndrome, typically between 1 and 10
- the adenomas tend to develop in the right side of the colon
- the average age of developing colorectal cancer is between 40 and 50
- the risk for developing colorectal cancer is increased—in Lynch syndrome, there is up to an 82% risk by age 70

Family history is very important in helping your doctor decide whether you have Lynch syndrome, MAP, or AFAP. The gene mutations that cause HNPCC can cause other cancers aside from colorectal cancer, such as endometrial, ovarian, and stomach cancer. Most HNPCC families have more than one member with colorectal or endometrial cancer, or individual members who have had more than one cancer. Your personal and family history of cancer and adenomas will help you and your healthcare provider to determine whether genetic testing for Lynch syndrome (with a test called COLARIS®) is right for you.

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## Some Frequently Asked Questions

### *Will my health insurance pay for the COLARIS AP<sup>®</sup> test?*

Insurance coverage for genetic testing of at-risk patients is excellent, with the majority of patients covered for testing. Although each case is unique, the average patient pays coinsurance of less than 10% of the test price.\*

### *Can my health insurance company discriminate against me based on my COLARIS AP<sup>®</sup> test results?*

Federal laws (HIPAA and GINA) and state laws prohibit discrimination regarding eligibility, benefits, or premiums based solely on genetic information.

### *Where can I get more information about COLARIS AP<sup>®</sup>?*

Please talk with your physician, genetic counselor, or other healthcare provider. You can also visit the Myriad Genetic Laboratories web site at [www.myriadtests.com](http://www.myriadtests.com) or call Myriad at 800-4-MYRIAD (800-469-7423).

\*Test prices may be confirmed by calling Myriad Customer Service at 800-469-7423. Unmet deductibles are always the responsibility of the patient.

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## Where to Look for Information and Support

To learn more about adenomatous polyposis syndromes, try the following sources:

Myriad Genetic Laboratories  
800-4-MYRIAD (800-469-7423)  
[www.myriadtests.com](http://www.myriadtests.com)

American Cancer Society  
800-ACS-2345  
[www.cancer.org](http://www.cancer.org)

American Gastroenterological Association  
301-654-2055  
[www.gastro.org](http://www.gastro.org)

Colon Cancer Alliance  
877-422-2030 (toll free)  
[www.ccalliance.org](http://www.ccalliance.org)

Colorectal Cancer Network  
301-879-1500  
[www.colorectal-cancer.net](http://www.colorectal-cancer.net)

Hereditary Colon Cancer Association  
800-264-6783  
[www.hereditarycc.org](http://www.hereditarycc.org)

National Cancer Institute  
Cancer Information Service  
800-4-CANCER  
[www.cancer.gov](http://www.cancer.gov)

National Society of Genetic Counselors  
610-872-7608  
[www.nsgc.org](http://www.nsgc.org)

THIS INFORMATION IS PROVIDED TO HELP ANSWER SOME OF YOUR QUESTIONS WITH RESPECT TO CANCER RISKS, HEREDITARY CANCER RISKS AND PRE-DISPOSITIONAL CANCER TESTING. IT IS GENERAL IN NATURE AND IS NOT INTENDED TO PROVIDE A DEFINITIVE ANALYSIS OF YOUR SPECIFIC RISK FACTORS FOR CANCER OR YOUR HEREDITARY CANCER RISKS. YOU SHOULD NOT RELY ON THE INFORMATION PROVIDED HEREIN; BUT RATHER, YOU SHOULD CONSULT WITH YOUR DOCTOR OR A QUALIFIED HEALTHCARE PROFESSIONAL TO REVIEW THIS INFORMATION ALONG WITH YOUR INDIVIDUAL HEALTH CONDITIONS AND RISK FACTORS.



## Assessing Your Risk

To find out if there is a pattern of inherited cancer in your family, fill out the questionnaire below as fully as you can. Then take it with you to your next visit with your healthcare provider. Having the facts on your personal and family history can help guide your healthcare.

800-469-7423

|                              | COLON<br>CANCER<br>before<br>age 50 | COLON<br>CANCER<br>after<br>age 50 | COLON<br>ADENOMAS<br>at any age<br>(How many?) | OTHER<br>CANCERS<br>at any age<br>(e.g. stomach, duodenal,<br>pancreatic, thyroid and<br>brain cancer, as well<br>as osteomas and<br>desmoid tumors) |
|------------------------------|-------------------------------------|------------------------------------|--|--|
| Yourself                     |                                     |                                    |  |  |
| Your mother/father           |                                     |                                    |  |  |
| Your sister/brother          |                                     |                                    |  |  |
| Your daughter/son            |                                     |                                    |  |  |
| Mother's side                |                                     |                                    |  |  |
| Your grandmother/grandfather |                                     |                                    |  |  |
| Your aunt/uncle              |                                     |                                    |  |  |
| Your cousin/niece/nephew     |                                     |                                    |  |  |
| Father's side                |                                     |                                    |  |  |
| Your grandmother/grandfather |                                     |                                    |  |  |
| Your aunt/uncle              |                                     |                                    |  |  |
| Your cousin/niece/nephew     |                                     |                                    |  |  |

Please tell your healthcare provider about any family history of endometrial or ovarian cancer.

www.myriadtests.com



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MYRIAD®

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