



MUTYH gene: What you need to know

What does it mean to test positive for two MUTYH gene mutations?

Having mutations in both copies the *MUTYH* gene (also known as *MYH*) causes a cancer predisposition condition called *MUTYH*-Associated Polyposis (MAP) syndrome.

What is my risk for cancer if I have MAP syndrome?

Individuals with MAP syndrome typically have many colon polyps (10-100s) and are at an increased risk for colorectal cancer, however, not everyone with MAP syndrome will develop cancer.

Lifetime Cancer Risks

	General Population	MAP Syndrome
Colon cancer	5%	40-100% (without intervention)
Small intestinal cancer	<1%	5%

At this time, there have been a small number of studies on the exact cancer risks linked to MAP syndrome. Through continuing research we hope to learn more about this condition.

It is important to note that these risks are based on individuals who did not have regular screening and/or other treatments such as preventive surgery. There are data that suggest that people with MAP syndrome can significantly decrease their risk of developing cancer by careful medical follow-up.

Depending upon the family history of cancer, people who have only one *MUTYH* gene mutation (called an *MUTYH* gene mutation carrier) **may** have an up to 2-fold increased risk of developing colon polyps and colon cancer, although little is known about *MUTYH* gene mutation carriers.

What does a diagnosis of MAP syndrome mean for my family?

- All children of an individual with MAP syndrome are carriers of at least one *MUTYH* gene mutation. Depending upon the family history of cancer, they may have up to a 2-fold increased risk for colon cancer over the general population.
- An individual with MAP can have a child with MAP only if his or her partner is an *MUTYH* gene mutation carrier.
- The siblings of an individual with MAP have a 1 in 4 (25%) chance of also having MAP, a 1 in 2 (50%) chance of having inherited one *MUTYH* gene mutation (i.e. *MUTYH* gene mutation carrier), and a 1 in 4 (25%) chance of not having any *MUTYH* gene mutation.