

What you need to know

MUTYH Gene**What does it mean to have two *MUTYH* pathogenic variants?**

Having pathogenic variants, also known as mutations, in both copies the *MUTYH* gene 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.

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 and surgical follow-up.**

Lifetime Cancer Risks

	General Population	MAP Syndrome
Colon cancer	4-5%	70-90% (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.

What does it mean to have only one *MUTYH* pathogenic variant?

Little is known about cancer risks for people who have one *MUTYH* pathogenic variant and one healthy copy of *MUTYH*. They do not have MAP syndrome, but depending upon the family history of cancer, they may have a small increase in colon cancer risk.

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

- All children of an individual with MAP syndrome will have at least one *MUTYH* pathogenic variant. Depending upon the family history of cancer, they may have a small increase in colon cancer risk.
- An individual with MAP can have a child with MAP if their partner has a *MUTYH* pathogenic variant.
- 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 just one *MUTYH* pathogenic variant, and a 1 in 4 (25%) chance of not having any *MUTYH* pathogenic variant.

