

Genetics and the Risk of Colorectal Cancer

It is advisable to undergo genetic screening as soon as possible if there is a family history of cancer.

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There is growing concern about the increasing rate of colorectal cancer (CRC) among younger people. As a result, the [recommended age for screening](#) has been lowered to 45 years. The [American Cancer Society](#) estimates that there will be approximately 106,590 new cases of colon cancer in the United States, with 54,210 cases in men and 52,380 cases in women. Additionally, there will be about 46,220 new cases of rectal cancer, with 27,330 cases in men and 18,890 cases in women. Since the mid-1990s, there has been a 1% to 2% increase in the number of CRC cases in people younger than 55 years of age. [A study](#) has shown that millennials (those born between the early 80s and late 90s) are twice as likely to develop CRC compared to those born in 1950. Furthermore, millennials are less likely to undergo early screening for CRC.

Genetics and Poor Health Outcomes

Various factors contribute to poor health outcomes. Common risk factors for disease include:

- Diet
- Environment
- Socioeconomic status
- Education
- Lifestyle and
- Genetics

Genetics is a significant risk factor for many diseases, including CRC. [According to one study](#), about 30% of CRC cases are inherited, with Lynch Syndrome being the most common cause of hereditary CRC.

Lynch syndrome, also known as hereditary nonpolyposis colorectal cancer or HNPCC, is an inherited disorder that elevates the risk of several types of cancer, including colorectal and uterine cancers. Approximately 4,300 colorectal and 1,800 uterine cancers per year are attributed to Lynch syndrome. [It is estimated](#) that 1 in 279 individuals in the United States have a variant associated with Lynch syndrome. Lynch syndrome [raises the risk](#) of developing cancer before the age of 50.

Early detection of Lynch syndrome through genetic testing can help identify CRC at an early stage. While genetic testing may not determine the cause of hereditary CRC, it can indicate if an individual has polyps and is at risk of developing CRC. This information allows for early colonoscopy and lifestyle changes that may reduce the risk and prevent late recognition of CRC.

Barriers to Genetic Testing

Common types of genetic testing includes;

- Single gene testing, which examines changes in only one gene
- Panel testing, which examines changes in many genes in one test
- Large scale testing: this could be genome sequencing (which examines a person's entire DNA) or exome sequencing (which focuses solely on the genes associated with medical conditions).

There are [various reasons](#) why people may be hesitant to undergo genetic testing:

1. Concerns about privacy breaches, stigmatization, and discrimination by healthcare providers.
2. Lack of trust in the health care system, particularly among Black Americans, due to historical instances of unethical research targeted at Black individuals.
3. Limited awareness or knowledge about the benefits of genetic testing.
4. Worries about potential health insurance discrimination based on genetic testing results.

These concerns act as barriers that prevent individuals from receiving necessary help and contribute to mortality rates related to CRC.

Genetic testing is [recommended](#) in the following situations:

1. If you have had CRC.
2. If you have a family member with Lynch syndrome or a history of CRC.

3. If you have had uterine cancer before the age of 50.

4. If your tumor screening results show abnormalities.

It is advisable to undergo genetic screening as soon as possible if there is a family history of cancer, regardless of your age. In addition, couples planning to have children should consider getting screened to identify potential health risks for future generations. As always, consult with your doctor for guidance.

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